NEW HAMPSHIRE
Patient Care Protocols

First Responder
EMT-Basic
EMT-Intermediate
EMT-Paramedic

Approved by the Medical Control Board
March 2009

New Hampshire Department of Safety
Division of Fire Standards and Training and Emergency Medical Services

Patient Care Protocols—2009 Edition

First Responder
EMT–Basic
EMT–Intermediate
EMT–Paramedic

This document is the Patient Care Protocols for New Hampshire Emergency Medical Providers—2009.

They were developed and drafted by the Protocol Committee of the New Hampshire Emergency Medical Services Medical Control Board.

These protocols are a "living document," and, at the option of the Bureau of EMS and the Medical Control Board, they can be edited and updated at any time. However, they are formally reviewed, edited, and released every two years.

These 2009 NH EMS Patient Care Protocols were reviewed, edited, and unanimously approved of by the NH EMS Medical Control Board.

These are New Hampshire State Patient Care Protocols; they have been written and approved of by the NH EMS Medical Control Board to establish the standard of EMS patient care. Any deviation from these protocols must be approved of in writing by the NH EMS Medical Control Board and the NH Bureau of EMS.

Please Note: For visual clarity, trademark and registered symbols have not been included with drug, product, or equipment names.

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A special thank you to Dr. Frank Hubbell, Peter Lewis, Jess Jolin, Josh MacMillan, and the staff at TMC Books for the newly formatted protocols.

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MESSAGE TO THE NEW HAMPSHIRE EMS COMMUNITY FROM THE STATE EMS MEDICAL DIRECTOR

This 2009 – 2010 Edition of the New Hampshire Patient Care Protocols is the best ever. It has the beautiful look and readability that are hallmarks of the design team at TMC Books in Conway. More importantly, it has many improvements and upgrades in content, the result of thousands of hours of labor by New Hampshire Bureau of EMS staff, the Protocols Subcommittee, the Medical Control Board, and you, the New Hampshire EMS Community.

Just how good are these protocols? Is there any way to measure? One tribute to our success is the request by two other states to directly adopt our New Hampshire Protocols.

I would like to take this occasion to acknowledge one particular contribution to the EMS system that often goes unrecognized, and may sometimes even be unappreciated. That is the major effort made by all the providers who create our TEMSIS reports. Though sometimes the process is frustrating, those valuable reports go forward to serve many purposes. The immediate use, of course, is as a communication of clinical information for the downstream caregivers who take over care of your patients. Many EMS squads use those same TEMSIS reports to document skills maintenance by providers, to keep quality management honest, and to collect squad statistics that can, among other uses, support requests for funding. The TEMSIS reports can be used in educational activities, such as run reviews, and they provide good documentation that could protect a provider in case of legal action. Protocol writers also benefit from the good work of everyone who does TEMSIS documentation. Every meeting of the Medical Control Board during the two years we worked on the 2009 – 2010 Protocols included review of data from TEMSIS. Good protocols serve real needs of working providers, and TEMSIS gives you a way to let us know what you do on the street every day.

Please tell us what you think of these protocols. Many of the improvements in this edition came from comments we received. Of course, I cannot guarantee that every suggestion will be adopted, but I can guarantee that every suggestion will be considered. Email or phone me, another member of the Medical Control Board, or Vicki Blanchard, the ALS Coordinator at the NH Bureau of EMS, or your own hospital EMS Coordinator. With your help, I know I will be able to make the same statement about the 2011 – 2012 Protocols that I am making about these: the best ever.

Douglas McVicar, MD
Chairman, NH EMS Medical Control Board

DEDICATION

Circa 1981

Rural NH

A young doctor arrives in rural NH fresh from the big city of New Orleans and a cutting-edge EMS residency program. I can only imagine what he thought of rural NH on his arrival. Back in 1981, there were no EMS or Trauma Systems in place; EMS education was at a minimum, there was little advanced equipment, and there were no providers beyond the EMT level. The most exciting development at that time was the addition of a "state of the art" device called the EOA! EMS in NH was truly in its infancy. The "rest" as they say is history. . . .

From my perspective, the "rest" is Doug McVicar. His dedication, passion, advocacy, knowledge, commitment, and vision have changed New Hampshire EMS from infancy to adulthood. Over the past 25 years, Doug has dedicated so much time, energy, and knowledge to the development and advancement of the EMS profession. He is the greatest of diplomats, the most wonderful of teachers, the very best clinician and patient advocate, an incredible visionary, and the most dedicated champion of EMS providers. No one single person has impacted the development of EMS here in NH as much as Doug has.

It was an honor to be asked to write this, a pleasure to look back and remember the old days, and a great opportunity for me to acknowledge Doug for all he has done for me professionally (and personally as well!). Doug, thank you for being my mentor, friend, advocate, and teacher. Without your support, time, advocacy, and sage advice, my career would have been quite different. Because you were my teacher and mentor so very many years ago, you continue to touch the lives of the next generation of EMS providers through my work today. Thank you for guiding me toward a career that has become my passion as well as yours! My success in EMS is a direct reflection of the amazing role model you have been to me.

Doug, on behalf of NH EMS providers (and myself), we all stand in awe, with respect and gratitude for all you have done to advance EMS over 25 challenging, ever-changing, and wonderful years. The words "Thank You" seem so insignificant in light of all the contributions you have made.

Nancy Brubaker NREMTP, RN. Med

Program Director

NHTI Paramedic Emergency Medicine Program

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PREFACE

All licensed Emergency Medical System (EMS) providers functioning within the New Hampshire EMS system will be required to be familiar with the contents of this document pertinent to their level of training.

It is understood that First Responders will function under the EMT-B standing orders up to the training outlined by the United States Department of Transportation (DOT) First Responder curriculum and American Heart Association guidelines for Healthcare Provider CPR training as defined in Saf-C 5901.31 unless authorized by the Department of Safety to provide "enhanced modules" (including ONLY oxygen therapy, obtaining vital signs, providing extremity splinting and spinal immobilization). It is assumed that the EMT-I standing orders include those listed as EMT-B standing orders, and EMT-P standing orders include those listed as EMT-B and EMT-I standing orders. The sequence of orders in these protocols is not necessarily the order in which they might be executed.

It is also important to note that the standing orders listed in this document are not orders that must be carried out. They are orders that may be carried out at the discretion of the EMT without the need for on-line Medical Control. EMTs at any level of training are encouraged to contact on-line Medical Control in cases where they feel that additional treatment is warranted beyond standing orders, cases where there is uncertainty regarding treatment (e.g., age or size appropriateness for a pediatric patient procedure), or in cases involving medicolegal or jurisdictional issues.

First Responders, EMT-Bs, and EMT-Is are encouraged to consider timely ALS or Paramedic involvement. All providers are urged to consider the appropriate use of air medical transport and transportation to definitive care when indicated.

The revisions to the protocols for 2009 attempted to take into consideration local preferences and subtle nuances in the application of certain therapies. With this in mind, the protocol review subcommittee of the Medical Control Board (MCB) attempted to provide a variety of options to meet the needs of local medical directors when selecting medications for their catchment area. For example, the seizure protocols read as follows:

IF GENERALIZED SEIZURE ACTIVITY IS PRESENT, CONSIDER

- Lorazepam 1 – 2mg IV or IM repeated every 5 minutes to a total of 8mg, **OR**
- Diazepam 5mg IV (then 2.5mg IV every 5 minutes to a total of 10mg), **OR**
- Midazolam 1 – 2.5mg IV/IM/IN repeated every 5 minutes or until seizure activity is abolished.

This use of "**OR**" was employed to allow medical directors, MRHs and their pharmacies to collaboratively determine which benzodiazepine would be practical for use by providers in that catchment area—not to imply that any one service would need to carry all of those agents.

It is understood that emergency care begins when a patient accesses the system. This means that the telecommunicators at the Bureau of Emergency Communications are integral to effective care by notifying, in a timely manner, the appropriate local dispatcher, as well as by initial instructions offered via Emergency Medical Dispatch (EMD) algorithms. Information will be offered via the EMD priority reference system including dispatch determinant descriptors to local dispatch operators for use by field units as local authorities deem appropriate.

Section 6 of the Protocols is offered in the hopes of being helpful in specific clinical circumstances, challenging or dangerous situations, as well as in areas of expanding EMS activity. The topics in this section are intended as "teaching" materials to expand on areas where the MCB believed additional detail would be beneficial.

This 2009 – 2010 edition of the January 2007 edition of the New Hampshire Patient Care Protocols includes multiple revisions prompted by evolving science and our aspiration to be guided by evidence-based medicine grounded in the practical wisdom of field experience. Evaluation of the data collected from the TEMSIS project will help guide the next series of revisions.

ROUTINE PATIENT CARE GUIDELINES 1.0

All levels of provider will complete an initial and focused assessment on every patient, and as standing order, use necessary and appropriate skills and procedures for which the provider has been trained and certified or approved to perform in order to maintain the patient's airway, breathing, and circulation.

MAKE TRANSPORT DECISIONS EARLY—CONSIDER

- Which facility is most appropriate?
- Normal priority or "Load and Go"?
- Request ALS or paramedic intercept as indicated.
- Is the patient a candidate for air medical transport?
- Notify the receiving facility as early as possible.
- Refer to all appropriate protocol(s) for further treatment options.

INITIAL ASSESSMENT

SCENE SIZE-UP

- Assess the scene for safety, mechanism of injury, and number of patients.
- Request additional resources as needed
- Use Incident Management/Command System (IM/CS) when possible.

LEVEL OF CONSCIOUSNESS

- Manually stabilize the patient's cervical spine if trauma is involved or suspected.
- Assess level of consciousness using the AVPU scale.

AIRWAY

- Assess the patient for a patent airway.
- Open the airway using a head-tilt/chin-lift, or a jaw thrust if suspicious of cervical spine injury.
- Suction the airway as needed.
- Treat foreign body obstruction in accordance with current guidelines.
- Consider an oropharyngeal or nasopharyngeal airway.
- Consider advanced airway interventions as appropriate and as trained and credentialed to perform.

BREATHING

- Assess the patient's breathing, taking note of rate, rhythm, and quality of the respirations.
- Provide oxygen therapy as appropriate.
- Assess lung sounds.
- Look for nasal flaring and/or intercostal and/or suprasternal notch retractions.
- Assess the chest for symmetrical chest rise, instability, open pneumothorax, tension pneumothorax, or other signs of trauma.
- Assist ventilations when the patient exhibits signs of impending respiratory failure or when the patient's ventilation are:
  - For pediatric: outside the ventilation guidelines
  - For adults: at a rate of less than 10 per minute or greater than 40

Routine Patient Care Guidelines continued on next page ⇨

ROUTINE PATIENT CARE GUIDELINES continued 1.0

⇦Routine Patient Care Guidelines continued from previous page

CIRCULATION

- Assess the patient's pulse, taking note of rate, rhythm, and quality.
- Apply and use an AED and initiate cardiopulmonary resuscitation in accordance with current guidelines, as trained and credentialed, if indicated.
- Control active bleeding using direct pressure, elevation, pressure bandages, and pressure points. As a last resort, use a tourniquet proximal to the bleeding site.
- Assess the patient's skin color, temperature, and moisture.
- IV access and fluid resuscitation as appropriate for the patient's condition. An IV for the purposes of these protocols is a saline lock or IV line with 0.9% NaCl (normal saline) and an attempt to obtain a blood sample, unless otherwise specified in an individual protocol. After IV is established, administer fluids to maintain systolic blood pressure >100mmHg for adults, and at age-specific range for pediatric patients per chart Pediatric Vital Signs by Age. Routes of medication administration when written as "IV" can also include "IO."

FOCUSED ASSESSMENT AND TREATMENT

- Obtain chief complaint, history of present illness, and prior medical history.
- All patients will receive a physical assessment as is appropriate for their presentation.
- Determine level of pain.
- Consider cardiac monitoring.
- Fully immobilize spine as indicated. (See Advanced Spinal Assessment Protocol 6.6)
- Splint and apply cold packs to injured body parts and elevate as appropriate. Assess and document CSMs before and after immobilization.
- If major pelvis fracture suspected, apply circumferential binding device (commercial device or sheet).
- Dress and bandage lacerations and abrasions.
- Cover evisceration with an occlusive dressing and cover to prevent heat loss.
- Stabilize impaled objects. Do not remove impaled object unless it interferes with CPR or your ability to maintain the patient's airway.
- Perform serial exams and monitor patient en route to the hospital.

OBTAIN VITAL SIGNS

- Monitor vital signs approximately every 15 minutes (more frequently if the patient is unstable).
- Include as indicated:
  - Level of Consciousness
  - Skin color, temperature, and moisture
  - Respiratory rate, pulse rate, blood pressure
  - SpO_2
  - Capnography
  - Fingerstick glucose
  - Temperature if fever, environmental hyperthermia, or hypothermia is suspected

Refer to appropriate protocol(s) for further treatment options.

DNR ORDER

- If DNR Order is presented, or a DNA identification bracelet or necklace is present, see DNR Protocol 6.4.

Routine Patient Care Guidelines continued on next page ⇨

ROUTINE PATIENT CARE GUIDELINES continued 1.0

⇦Routine Patient Care Guidelines continued from previous page

PEDIATRIC DEFINITIONS

- Assessment of pediatric patients must take into account the characteristics of a child's anatomy and physiology at each stage of development.

MEDICAL

- For the purposes of these protocols, a "pediatric patient" is defined as a child who fits on the length-based resuscitation tape up to 36kg or 145cm. If longer than the length-based resuscitation tape, they are considered an adult. Use of a length-based resuscitation tape is recommended on all pediatric patients if administering medications or performing invasive procedures.
- While this recommendation does not address some emotional and developmental issues, for most therapies, the use of length-based determination for equipment and medication choices is evidence based. Use of the length-based resuscitation tape is particularly helpful in a situation where there is no confirmed weight or age (e.g., in a disaster setting).

CONSENT

A "minor" is a person who has not yet reached his/her eighteenth birthday.

Note that the legal definition of a "minor" for purposes of consent is unrelated to the medical definitions of "pediatric patient," "child," and "children," as used in these protocols.

Under RSA 153-A:18, EMS personnel may treat minors under the doctrine of implied consent when the minor's parent or other authorized representative is unavailable to provide express consent. With the exception of life-threatening emergencies, EMS personnel should attempt to contact the minor's parent or legal guardian to obtain informed consent to treat and transport the child. When a parent or legal guardian is unavailable, another authorized representative (e.g., a school or camp official), who has been expressly authorized by the minor's parent, may consent to health care treatment.

A parent or legal guardian may refuse care for a minor:

- When a parent or legal guardian is not reasonably available, another adult family member (e.g., grandparent), or other authorized representative having custody of the minor, may refuse care.
- EMS personnel may accept a telephonic refusal of care, provided that they have explained the consequences of refusing care; telephonic refusal of care should be carefully documented.

Except for the special circumstances listed below, a minor may not refuse care. When a minor attempts to refuse care and/or transport to the hospital, EMS personnel should enlist the assistance of the police, including requesting that the police place the minor in protective custody. Minors should be restrained by EMS personnel only as a last resort.

SPECIAL CIRCUMSTANCES

- A minor parent who has not yet reached his/her eighteenth birthday may consent to or refuse care on behalf of his or her minor children, provided that the minor parent has the capacity to understand the nature of the treatment and the possible consequences of consenting to or refusing care.
- Any patient 14 years of age or older does not need parental consent for treatment of sexually transmitted diseases (RSA141-C:18).
- Any patient 12 years of age or older may voluntarily submit to a health care facility for drug dependency or any problem related to drugs (see RSA318-B:12-a).
- An emancipated minor may consent to, or refuse health care. A minor patient bears the burden of establishing, by legal documentation or otherwise, that he/she is emancipated. New Hampshire recognizes emancipation decrees issued by other states.

Routine Patient Care Guidelines continued on next page ⇨

ROUTINE PATIENT CARE GUIDELINES continued 1.0

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PEDIATRIC VITAL SIGNS

- Interpreting children's vital signs and symptoms as though they were an adult may result in an inaccurate assessment and incorrect treatment.

PEDIATRIC VENTILATION GUIDELINES			
	Respiratory Rate		Ventilation
Age	Too Slow	Too Fast	Breaths/Minute
Newborn	<30	>80	40 – 60
Infant	<20	>70	30 – 40
1 – 6 Years	<16	>40	20 – 30
6 – 12 Years	<12	>30	16 – 20
12 – 16 Years	<10	>24	12 – 16

PEDIATRIC VITAL SIGNS BY AGE					
Age	Heart Rate Avg.	Range	Respiratory Range	Systolic BP Avg.	Range
Newborn	140	110 – 180	40 – 60	72	52 – 92
1 month	135	90 – 170	30 – 50	82	60 – 104
1 year	120	80 – 160	20 – 30	94	70 – 118
2 years	110	80 – 130	20 – 30	95	73 – 117
4 years	105	80 – 120	20 – 30	96	65 – 117
6 years	100	75 – 115	18 – 24	97	76 – 116
8 years	90	70 – 110	18 – 22	99	79 – 119
10 years	90	70 – 110	16 – 20	102	82 – 122
12 years	85	60 – 110	16 – 20	106	84 – 128
14 years	80	60 – 105	16 – 20	110	84 – 136

APGAR SCORE		0 Points	1 Point	2 Points
A	**Activity** Muscle tone	Limp Flaccid	Some flexion of extremities	Active movement of extremities
P	**Pulse** Heart rate	Absent	Below 100 beats/minute	Above 100 beats/minute
G	**Grimace** Reflex irritability	No response	Grimace or weak cry	Good cry
A	**Appearance** Color	Blue or pale	Peripheral discoloration	Completely pink
R	**Respiration**	Absent	Slow, irregular	Normal, Strong cry

Routine Patient Care Guidelines continued on next page ⇨

⇦Routine Patient Care Guidelines continued from previous page

PEDIATRIC GLASGOW COMA SCALE

	Infants		Children
M	Moves Spontaneously	6	Obeys Commands
O	Withdraws from Touch	5	Localizes Painful Stimuli
T	Withdraws from Pain	4	Withdraws from Pain
O	Abnormal Flexion	3	Abnormal Flexion
R	Abnormal Extension	2	Abnormal Extension
	No Response	1	No Response
V	Coos and Babbles	5	Oriented
E	Irritable Cry	4	Confused
R	Cries to Pain	3	Inappropriate Words
B	Moans to Pain	2	Incomprehensible
A	No Response	1	No Response
L			
E	Spontaneous	4	Spontaneous
Y	To Speech/Sound	3	To Speech/Sound
E	To Pain	2	To Pain
	No Response	1	No Response

PEDIATRIC TRAUMA TRIAGE CRITERIA

Component	+2	+1	-1
Weight	>20kg	10 – 20kg	<10kg
Airway	Normal	oxygen adjunct: mask, cannula, oral or nasal airway	Assisted/Intubated bag valve mask (BVM)/ETT Cricothyrotomy
Level of Consciousness	Awake	Altered or history of loss of consciousness	Coma Unresponsive
Circulation	Peripheral pulses good systolic BP >90mmHg	Brachial/Femoral pulses palpable systolic BP 50 – 90mmHg	Weak or no peripheral pulses systolic BP <50mmHg
Fracture	None seen or suspected	Single closed fracture	Any open or multiple fractures
Cutaneous	No visible injury	Contusion, abrasion or laceration <7cm, not through fascia	Tissue loss laceration >7cm Penetrating injury

A child is considered to have incurred serious trauma if:

- A color triage score of one black box or two gray boxes
- A numerical triage score ≤9
- Penetrating wounds to the head, neck, torso, or extremities proximal to the elbow or knee
- Two or more long bone fractures, a pelvic fracture, or flail chest
- Open or depressed skull fracture
- Full thickness (3°) burns, partial thickness (2°) burns >10% BSA, or burns combined with trauma
- Paralysis
- Amputation proximal to the wrist or ankle

APPARENT LIFE-THREATENING EVENT (ALTE) 1.1

Involves a frightening episode in a child less than 2 years old, and involves some combination of apnea, color change, limpness, or choking.

NOTE: Most children who experience an ALTE have a normal physical exam when assessed by responding pre-hospital personnel; BUT almost 50% will have an underlying condition requiring comprehensive medical care.

BASIC/INTERMEDIATE/PARAMEDIC STANDING ORDERS

- Obtain a present medical history (assume history provided by family/witness is accurate).
  - Determine the severity, nature, and duration of the episode.
  - Was the patient awake or sleeping at the time of the episode?
  - Details of the resuscitation, if applicable.
- Obtain a past history of chronic disease (including seizures), current or recent infection, gastroesophageal reflux, recent trauma, medications, new or inappropriate mixture of formula.
  - Was child born pre-term or near-term?
- Perform a comprehensive physical exam including neurological assessment.
- Keep the child warm and transport to hospital.
- Contact Medical Resource Hospital for assistance if the parent/guardian refuses medical care and/or transport.

PATIENT STATUS DETERMINATION & TRANSPORT DECISIONS 1.2

STATUS I (SEVERELY ILL OR INJURED PATIENTS WHO REQUIRE IMMEDIATE CARE AND TRANSPORT)

- Cardiac arrest.
- Respiratory arrest.
- Patient unresponsive or responsive to painful stimuli only.
- Severe and/or deteriorating respiratory condition.
- Shock/severe bleeding.
- Major trauma.
- Status epilepticus.

Consider transporting patients classified as Status I trauma patients by Air Medical Transport from the scene of an emergency to the closest Level I or Level II Trauma Center, or ALS or paramedic intercept.

Transport to closest appropriate hospital.

STATUS II (PATIENTS WITH ILLNESS OR INJURIES THAT ARE DETERMINED NOT TO BE IMMEDIATELY LIFE-THREATENING)

- Moderate injury without shock or respiratory compromise
- Major fractures without shock
- Moderate dyspnea
- Acute MI (activation of cath lab if applicable)
- Stroke (activation of stroke team if available)

Transport to closest appropriate hospital.

Consider appropriate Air Medical Transport and/or ALS or paramedic intercept.

STATUS III (PATIENTS WITH MINOR ILLNESS OR INJURIES THAT DO NOT REQUIRE IMMEDIATE STABILIZATION)

- Patient alert, vitals signs within normal limits, and with simple uncomplicated injuries or medical complaints
- Soft tissue injuries including minor burns
- Extremity fractures and dislocations
- Maxillofacial injuries without airway compromise
- Asthma attack that has responded to bronchodilators
- Status: post seizure
- Psychological emergencies

Transport to closest appropriate hospital.

Patient Status Determination & Transport Decisions continued on next page ⇨

PATIENT STATUS DETERMINATION & TRANSPORT DECISIONS continued 1.2

⇦Patient Status Determination & Transport Decisions continued from previous page

STATUS IV (STABLE—TRANSPORT FOR DIAGNOSTIC TESTS)

- Patients being transported to undergo non-emergent diagnostic tests who will not be seen in the emergency department or evaluated by a physician in the emergency department

Transport to designated hospital.

NOTES OF CLARIFICATION

- Should a patient deteriorate in status while en route to a hospital, the unit may divert to the nearest hospital after consultation with Medical Control and notification of both the hospital of original destination and the new destination hospital.
- In cases where the patient's status is uncertain, consult with Medical Control and proceed as directed.
- Status IV patients should be transported to their previously arranged destination unless their condition deteriorates to Status III, II, or I.
- The destination hospital is determined by the prehospital provider with the highest medical level providing patient care. It should not be determined by police or bystanders.

AIR MEDICAL TRANSPORT *1.3*

The purpose of these guidelines is to establish a clinical framework for prehospital personnel to make decisions regarding when to request Air Medical Transport services. The following constitute the foundation for these guidelines.

EMS personnel may request Air Medical Transport (AMT) when operational conditions exist and/or the indicated clinical conditions are present (see below).

- Patients with an uncontrolled airway or uncontrollable hemorrhage should be brought to the nearest hospital unless Advanced Life Support (ALS) service (by ground or air) can intercept in a more timely fashion.
- AMT is not indicated for patients in cardiac arrest.
- AMT is not indicated for contaminated patients until AFTER decontamination.
- Request AMT as soon as practical after initial assessment. Consider placing AMT on standby based on dispatch information.
- **These guidelines have been established so that Air Medical Transport does not require online Medical Control approval.**

OPERATIONAL CONDITIONS

- When a patient meets defined clinical criteria and scene time plus ground transport time to the closest Level I trauma hospital exceeds the ETA of Air Medical Transport, **OR**
- Patient location, weather, or road conditions preclude the use of standard ground ambulance, **OR**
- Multiple casualties/patients are present which will exceed the capabilities of the local hospital and agencies.

CLINICAL CONDITIONS

Physiological Criteria:

- Severe respiratory compromise with respiratory arrest or abnormal respiratory rate
- Circulatory insufficiency: sustained systolic blood pressure <100 or other signs of shock
- Severe traumatic brain injury: AVPU scale P or U, Glascow Coma Scale (GCS) <9, or motor component of GCS <5

Anatomic Criteria:

- Penetrating or severe blunt trauma to the chest or abdomen
- Multi-system trauma

ADDITIONAL NOTES

- AMT may be indicated in a wide range of conditions other than those listed above. In cases where the patient's status is uncertain, consult with Medical Control and proceed as directed.
- If extrication time, plus ground transport time to local hospital, is less than air transport arrival time to scene, consider initiating ground transportation and diverting the helicopter to a local hospital.
- The destination hospital is determined by the prehospital provider with the highest medical level providing patient care. It should not be determined by police or bystanders.
- Transfers from ground ambulance to air ambulance shall occur at the closest appropriate landing site, including hospital heliports, airports, or unimproved landing sites deemed safe per pilot discretion. In cases where a hospital heliport is used strictly as the ground-to-air ambulance transfer point, no transfer of care to the hospital is implied or should be assumed by hospital personnel, unless specifically requested by the EMS providers.

COMMUNICATIONS *1.4*

EMTs transporting status I, II, or III patients (see Patient Status Determination—Protocol 1.2) should advise the receiving hospital, in a timely manner, of patients en route to that Emergency Department (except in Mass Casualty Incidents (MCI) during which routine communications cease).

An EMT may establish contact with a medical control physician via VHF radio on one of the assigned medical frequencies, via telephone direct to each Emergency Department's recorded EMS line, or via telephone patch through the Resource Coordination Center. If a Medical Control physician is needed for consultation, request before giving patient information. It is recommended that all medical communications be recorded.

VHF MEDICAL FREQUENCIES

Initiate call to the appropriate hospital and identify:

- Destination hospital
- Ambulance unit calling
- Status of patient

TELEPHONE

- To contact the destination hospital via telephone, use the direct-recorded line to the Emergency Department.
- Request Medical Control, if needed, give the name of patient, their age, status and complaint.

Upon establishing voice communication with the destination hospital/medical control physician (if needed), present the following information in a concise and clear manner.

- Emergency response unit and level of care: paramedic/Intermediate/Basic, with ETA
- Patient's age, sex, and status level
- Patient's chief complaint
- Patient's present medical condition
- Patient's vital signs, including Level of Consciousness
- Patient's physical signs of illness or injury
- Patient's electrocardiogram rhythm, if indicated
- Patient's relevant medical history
- Prehospital diagnostic tests performed/results and treatment rendered/results

Give a list of medications and allergies only if requested by the destination hospital, or if it is anticipated that a medication order would be given by Medical Control.

COMMUNICATIONS FAILURE *1.5*

In case of a communications failure with Medical Control due to equipment (cell phone, landline, IHERN), malfunction, or due to incident location, the following will apply.

- ► EMS personnel may, within the limits of their certifications, perform necessary ALS procedures that, under normal circumstances would require a direct physician order.
- ► These procedures shall be the minimum necessary to prevent the loss of life or the critical deterioration of a patient's condition.
- ► All procedures performed under this order, and the conditions that created the communications failure, need to be thoroughly documented.
- ► Attempts must be made to establish contact with Medical Control as soon as possible.

ALLERGIC REACTION/ANAPHYLAXIS—ADULT 2.0

Anaphylaxis is suspected exposure to an allergen **AND** one or more of the following:

- Severe respiratory distress
- Airway compromise/impending airway compromise (wheezing, swelling of the lips/tongue, throat tightness)
- Signs of shock

BASIC STANDING ORDERS

B

- Routine Patient Care.
- If the patient has signs/symptoms of an allergic reaction (hives, itching, anxiety), contact Medical Control for further direction.
- If signs/symptoms of anaphylaxis and provider is trained to do so, administer adult epinephrine autoinjector (EpiPen) 0.3mg IM lateral thigh (caution with history of coronary artery disease, hypertension, etc.).
- Do not delay transport.

INTERMEDIATE STANDING ORDERS

I

- **For anaphylaxis**, administer epinephrine (1:1,000) 0.3mg (0.3ml) SQ/IM. Consider repeating X 2 every 5 minutes if no improvement.
- Consider administration of a unit dose of albuterol 2.5mg mixed with a unit dose of ipratropium 0.5mg nebulizer **OR** DuoNeb via nebulizer, **THEN**
- Consider unit dose of albuterol 2.5mg, via nebulizer, every 5 minutes (total 4 nebs).

PARAMEDIC STANDING ORDERS

P

- For allergic reaction, consider diphenhydramine 25 – 50mg PO/IM/IV.
- Consider methylprednisolone 62.5mg IV.
- For anaphylaxis refractory to SQ or IM epinephrine, consider epinephrine (1:10,000) 0.1mg (1ml) increments IV every 2 minutes.

ALLERGIC REACTION/ANAPHYLAXIS—PEDIATRIC 2.0P

Anaphylaxis is determined by suspected exposure to an allergen **AND** one or more of the following:

- Severe respiratory distress
- Airway compromise/impending airway compromise (wheezing, swelling of the lips/tongue, throat tightness)
- Signs of shock (see Normal Pediatric Vital Signs and Parameters Charts)

BASIC/INTERMEDIATE STANDING ORDERS

B/I

- Routine Patient Care.
- If the patient has signs/symptoms of an allergic reaction (hives, itching, anxiety), contact Medical Control for further direction.
- **For anaphylaxis**, administer pediatric epinephrine autoinjector (EpiPen Jr) 0.15mg IM lateral thigh for patients greater than 10kg and fit on a pediatric length-based resuscitation tape.
- Do not delay transport except for epinephrine administration.

PARAMEDIC STANDING ORDERS

P

- For anaphylaxis consider epinephrine (1:1,000) 0.01mg/kg (0.01ml/kg) maximum dose of 0.3mg (0.3ml) SQ/IM every 5 minutes.
- Consider administration of a unit dose of albuterol 2.5mg mixed with a unit dose of ipratropium 0.5mg or DuoNeb via nebulizer, **THEN**
- Consider unit dose of albuterol 2.5mg, via nebulizer, every 5 minutes (total 4 nebs).
- If hypotensive, infuse 0.9% NaCl (normal saline) 20ml/kg to maintain hemodynamic status.
- Consider diphenhydramine 1mg/kg IV/IM for moderate to severe symptoms.
- Consider diphenhydramine for children greater than 1 year of age, 1.25mg/kg PO for mild symptoms.
- For anaphylaxis refractory to SQ or IM epinephrine, consider epinephrine (1:10,000) 0.01mg/kg (0.1ml/kg) IV.
- Consider methylprednisolone 1mg/kg IV.

ASTHMA/COPD/RAD[1]—ADULT 2.1

BASIC STANDING ORDERS

B

- Routine Patient Care.
- Administer oxygen at the appropriate rate for the patient's condition and medical history.
- Patients with COPD who are on home oxygen, increase their rate by 1 – 2 liters per minute.
- Attempt to keep oxygen saturation above 90%; increase the rate with caution and observe for fatigue, decreased mentation, and respiratory failure.
- Assist patient with his/her own Metered Dose Inhaler (MDI), if appropriate; only MDIs containing beta adrenergic bronchodilators—albuterol (Ventolin, Proventil), Combivent, levalbuterol (Xopenex) may be used: 2 puffs; repeat every 5 minutes up to 3 times, as needed. Contact Medical Control if extended transport time or no improvement.

INTERMEDIATE STANDING ORDERS

I

- Consider administration of a unit dose of albuterol 2.5mg mixed with a unit dose of ipratropium 0.5mg or DuoNeb via nebulizer, **THEN**
- Consider albuterol 2.5mg, via nebulizer, every 5 minutes (total 4 nebs).
- For patients exhibiting signs/symptoms consistent with CHF, see Protocol 3.3.

PARAMEDIC STANDING ORDERS

P

- Consider levalbuterol 1.25mg via nebulizer, every 20 minutes for a total of 4 doses.
- Consider methylprednisolone 62.5mg IV.
- For COPD patients, consider Continuous Positive Airway Pressure* (CPAP), if available and trained to use; maximum 10cmH_2O pressure support.
- For patients who do not respond to nebulizer treatments, or for impending respiratory failure, consider:
  - Epinephrine (**1:1,000**) 0.3mg (0.3ml) SQ/IM.
  - Magnesium sulfate 2 grams in 100ml 0.9% NaCl (normal saline) IV over 10 minutes.
- Advanced Airway Management as indicated and trained to perform—see Protocol 5.0

([1]RAD = Reactive Airway Disease)

***CPAP Indications**: Respiratory distress in the conscious patient suffering from presumed pulmonary edema or COPD who is non-responsive to simple oxygenation via non-rebreather mask.

Reference: National Heart Lung and Blood Institute. NIH Publication No. 07-4051. Originally printed July 1997, revised June, 2002, August 2007.

ASTHMA/RAD[1]/CROUP—PEDIATRIC 2.1P

BASIC/INTERMEDIATE STANDING ORDERS

B/I

- Routine Patient Care.
- Attempt to keep oxygen saturation above 90%; increase the rate with caution and observe for fatigue, decreased mentation, and respiratory failure.
- If suspected epiglottitis, limit evaluation/interventions to only those absolutely necessary. Transport in upright position.
- Assist patient with his/her own MDI, if appropriate; only MDIs containing beta adrenergic bronchodilators—albuterol (Ventolin, Proventil), levalbuterol (Xopenex) may be used: 2 puffs; repeat every 5 minutes up to 3 times; contact Medical Control if extended transport time or no improvement.
- For patients with croup, provide humidified oxygen.

PARAMEDIC STANDING ORDERS

P

- If croup suspected, consider nebulized epinephrine: may repeat X 1 in 15 minutes.
  - Less than 1 year of age: 2.5mg (2.5ml of 1:1000) in 3ml normal saline
  - Greater than 1 year of age: 5mg (5ml of 1:1000) in 3ml normal saline.
- Consider administration of a unit dose of albuterol 2.5mg mixed with a unit dose of ipratropium 0.5mg or DuoNeb via nebulizer, **THEN**
  - Consider unit dose of albuterol 2.5mg, via nebulizer, every 5 minutes (total 4 nebs).
- Consider levalbuterol 0.63mg via nebulizer every 20 minutes up to a total of 4 doses.
- Consider epinephrine **(1:1,000) 0.01**mg/kg (0.01ml/kg) IM/SQ (maximum 0.3mg = 0.3ml) for patients unable to inhale nebulized albuterol.
- Consider methylprednisolone 1mg/kg IV for severe exacerbation or patient who does not respond after first nebulizer treatment.
- Advanced Airway Management as indicated and trained to perform—see Protocol 5.0

([1]RAD = Reactive Airway Disease)

Reference: National Heart Lung and Blood Institute. NIH Publication No. 07-4051. Originally printed July 1997, revised June, 2002, August 2007.

BEHAVIORAL EMERGENCIES INCLUDING SUICIDE ATTEMPTS & THREATS—ADULT & PEDIATRIC 2.2

SCENE SAFETY

- Consider waiting for law enforcement to secure the scene.
- Avoid the use of lights and sirens on approach.
- Secure the area and move bystanders away.
- Approach in teams of two, with one rescuer focusing on the patient and the other on scene control.
- Approach in a calm, supportive manner.
- Offer reassurance: Let them know you can help them or get them help.
- Respect the dignity and privacy of the individual.
- Keep distance from the patient if rescuer's presence increases patient's agitation.
- Avoid caring for an agitated patient in a room with only a single entrance/exit, if possible.
- Position yourself to allow easy egress for yourself or the patient.
- Never leave a rescuer alone with a potentially violent or dangerous patient!
- Do not leave an at-risk or potentially dangerous patient unattended or unsupervised, even briefly.
- Talk in a conversational tone, reflect back to the patient what they say (ensures accuracy).
- Respond to hallucinations or delusions by talking about the patient's feelings rather than what he/she is describing: "It sounds like you are really frightened that people are out to get you."
- Give firm, clear directions; one person should talk to the patient.
- Explain clearly what will happen next and allow patient choice when possible.

Implement **SAFER** model

S Stabilize the situation by lowering stimuli, including voice.
A Assess and acknowledge the crisis by validating the patient's feelings and not minimizing them.
F Facilitate the identification and activation of resources (clergy, family, friends, or police).
E Encourage the patient to use resources and take actions in his/her best interest.
R Recovery or referral—leave patient in care of responsible person or professional, **OR** transport to appropriate medical facility. Do not leave patient alone when EMS clears the scene.

BASIC/INTERMEDIATE STANDING ORDERS

B/I

- Routine Patient Care.
- Observe and record the patient's behavior.
- Determine if the patient is under the care of mental health professionals and record contact information.
- Assess for risk to self and others.
  - ♦ Ask directly, **"Are you thinking about killing yourself, or killing someone else, or hurting yourself, or hurting others?"**
    - ◊ If yes, ask directly "Have you thought about how you would do this?"
      - ✦ If yes, find out if he/she has the means available, or is attempting to procure the means to carry out his/her thoughts. Ask directly, "Do you have or know where you can get guns, pills, rope, a car, etc.?"
  - ♦ If yes, **"Have you planned out where and when you would do it?"**

Behavioral Emergencies Including Suicide Attempts & Threats continued on next page ⇨

BEHAVIORAL EMERGENCIES INCLUDING SUICIDE ATTEMPTS & THREATS—ADULT & PEDIATRIC continued 2.2

⇦ Behavioral Emergencies Including Suicide Attempts & Threats continued from previous page

BASIC/INTERMEDIATE STANDING ORDERS continued

B/I

- If yes, **"Does anyone else know about your plans?"** (Teens and young adults sometimes engage in a suicide pact with another person. Getting this information, who the other person is and the names and numbers for how he/she can be contacted, can be critical.)

- If the patient is a risk for suicide or violence toward others:
  - Transport to hospital for evaluation by mental health professional.
  - If patient refuses transport, contact law enforcement for assistance.
- If patient does not appear to be an immediate threat to self or others and refuses transport:
  - Encourage the patient to seek mental health evaluation.
  - Provide patient with the mental health center emergency services number 1-800-273-TALK.
  - Avoid leaving the patient alone. Assist in contacting responsible family/friend.
- Encourage family to remove all firearms or other lethal means from the home, as availability in the home dramatically increases the chances that an individual will act.
- Restrain **if necessary** and **only** for the safety of the patient and crew.
  - Use only soft restraints and monitor distal circulation.
  - Consider paramedic intercept.
  - Restraint notes:
    - Use the minimum force necessary. **NEVER** restrain for punitive reasons.
    - Frequent airway monitoring.
    - Do not restrain **patient**:
      - Face down
      - With hands behind back
      - With both hands over the head to the top bar of stretcher (one hand is acceptable)
      - With straps over lower thorax or upper abdomen
      - Using a "sandwich" restraint with scoop or backboard

PARAMEDIC STANDING ORDERS—ADULT

P

Consider:

- Haloperidol 5mg IM; may repeat once in 5 minutes, **OR**
- Lorazepam 1mg IV or 2mg IM; may repeat once in 5 minutes, **OR**
- Midazolam 2.5mg IV/IM/IN; may repeat once in 5 minutes, **OR**
- Diazepam 2mg IV or 5mg IM; may repeat once in 5 minutes

Antidotes

- Flumazenil 0.2mg IV over 30 seconds
  - Indication: adverse affects of benzodiazepines administered by EMS personnel
- Diphenhydramine 25 – 50mg IV or 50mg IM
  - Indication: for acute dystonic reaction to haloperidol

DIABETIC (HYPOGLYCEMIA/HYPERGLYCEMIA) EMERGENCIES—ADULT 2.3

DEFINITION: Hypoglycemic emergency—glucose less than <80mg/dl with associated altered mental status. Hyperglycemic emergency—glucose greater than 300mg/dl with associated altered mental status.

BASIC STANDING ORDERS

B

- Routine Patient Care.
- Obtain glucose reading via glucometer.
- Oral glucose
  - Indication: hypoglycemic emergency. **Patient must be alert enough to swallow and protect airway.**

INTERMEDIATE STANDING ORDERS

I

- Hypoglycemic emergency
  - Administer dextrose (D50) 25 grams IV. Re-check glucose 5 minutes after administration of dextrose (D50). Repeat dextrose (D50) 25 grams IV if glucose level is less than 80mg/dL.
  - If available and indicated, consider assisting family in administration of patient's glucagon 1mg IM or SQ.
- Hyperglycemic emergency
  - Administer 500ml bolus of 0.9% NaCl (normal saline), then 250ml/hr.

PARAMEDIC STANDING ORDERS

P

- If unable to obtain IV access, administer glucagon 1mg IM or SQ.

DIABETIC (HYPOGLYCEMIA/HYPERGLYCEMIA) EMERGENCIES—PEDIATRIC *2.3P*

DEFINITION: Hypoglycemic emergency—glucose less than <60mg/dl with associated altered mental status. Hyperglycemic emergency—glucose greater than 300mg/dl with associated altered mental status.

BASIC/INTERMEDIATE STANDING ORDERS

B/I

- ► Routine Patient Care.
- ► Obtain glucose reading via glucometer.
- ► Oral glucose
  - ♦ Indication: hypoglycemic emergency. **Patient must be alert enough to swallow and protect airway.**

PARAMEDIC STANDING ORDERS

P

- ► Hypoglycemic emergency
  - ♦ Administer dextrose per length-based resuscitation tape.
  - ♦ If unable to obtain IV or IO access: administer glucagon 1mg IM or SQ for age greater than 30 Days.
- ► Hyperglycemic emergency
  - ♦ Administer 0.9% NaCl (normal saline) 10ml/kg bolus in addition to maintaining hemodynamic status.

STROKE—ADULT & PEDIATRIC 2.4

BASIC STANDING ORDERS

B

- Routine Patient Care.
- Obtain glucose reading via glucometer.
- Perform Prehospital Stroke Scale.
- Determine time of onset of the symptoms.
- Notify emergency department as soon as possible.
- Elevate head of the stretcher 30^0.
- Check blood pressure bilaterally.
- Minimize on-scene time; do not delay ALS intercept.

INTERMEDIATE (ADULTS ONLY)/PARAMEDIC (ADULTS & PEDIATRICS) STANDING ORDERS

I/P

- Consider underlying causes.

PREHOSPITAL STROKE SCALE	
Abnormal findings on any part of the exam may indicate an acute stroke.	
FACIAL DROOP	**HAVE THE PATIENT SMILE AND SHOW TEETH**
Normal	Both sides of face move equally well.
Abnormal	One side of face does not move as well as other side.
ARM DRIFT	**HAVE THE PATIENT CLOSE EYES AND HOLD ARMS EXTENDED**
Normal	Both arms move the same or both arms don't move at all.
Abnormal	One arm doesn't move or one arm drifts down compared to the other.
SPEECH	**ASK THE PATIENT TO REPEAT A PHRASE SUCH AS, "YOU CAN'T TEACH AN OLD DOG NEW TRICKS."**
Normal	Patient says correct words without slurring.
Abnormal	Patient slurs words, says wrong words, or is unable to speak.

HYPERTHERMIA (ENVIRONMENTAL)—ADULT & PEDIATRIC 2.5

Mental status changes in the heat-challenged victim signal the onset of potentially severe heat illness and heat stroke. Mortality and morbidity are directly related to the length of time the victim is subject to the heat stress. Consider pharmacological causes as well.

BASIC STANDING ORDERS

B

- Routine Patient Care.
- Move victim to a cool area and shield from the sun or any external heat source.
- Remove as much clothing as is practical and loosen any restrictive garments remaining.
- If alert and oriented, give small sips of cool liquids.
- Monitor and record vital signs and Level of Consciousness.
- If temperature >104^{0}F (40^{0}C) or if altered mental status is present, begin active cooling by:
  - Continually misting the exposed skin with tepid water while fanning the victim (most effective).
  - Truncal ice packs may be used, but are less effective than evaporation.
  - Discontinue active cooling if shivering occurs and notify Medical Control

INTERMEDIATE STANDING ORDERS—ADULT

I

- 500ml (0.9%) NaCl (normal saline) IV fluid bolus for dehydration.

PARAMEDIC STANDING ORDERS—ADULT

P

- If uncontrolled shivering occurs during cooling:
  - Lorazepam 0.5 – 1mg IV/IM **OR**
  - Diazepam 2mg IV or 5mg IM
- Flumazenil 0.2mg IV over 30 seconds to reverse the adverse effects of benzodiazepines that were administered by EMS personnel
- If seizure activity present, follow Seizure Protocol 2.13.

PARAMEDIC STANDING ORDERS—PEDIATRIC

- 10 – 20ml/kg 0.9% NaCl (normal saline) IV fluid bolus for dehydration

HYPOTHERMIA (ENVIRONMENTAL)—ADULT & PEDIATRIC 2.6

BASIC STANDING ORDERS

B

- Routine Patient Care.
- Avoid rough movement and excess activity.
- Prevent further heat loss:
  - Insulate from the ground and shield from wind/water.
  - Move to a warm environment.
  - Gently remove any wet clothing.
  - Cover with warm blankets. Cover the head and neck.
- Obtain temperature—rectal temperature preferred as appropriate.
- Maintain horizontal position.
- Truncal warm packs.
- Consider covering the patient's mouth and nose with a surgical mask to prevent respiratory heat loss.
- A minimum of 45 – 60 second assessment of respiration and pulse is necessary to confirm respiratory arrest or pulseless cardiac arrest.
- If pulse and breathing present, continue rewarming techniques.
- If pulse and breathing absent:
  - Start CPR with rate of chest compressions and ventilations at 1/2 to 1/3 the usual rate. Do not initiate compressions if any palpable pulse is present.
  - Apply cardiac monitor/AED if available; shock once. If core temperature >30°C (86°F) may repeat shock per AED after two minutes of CPR.
  - If unsuccessful, perform CPR.

INTERMEDIATE (ADULTS ONLY)/PARAMEDIC (ADULTS & PEDIATRICS) STANDING ORDERS

I/P

- If core temperature <30°C (86°F):
  - Continue CPR.
  - Withhold IV medications.
  - Attempt defibrillation once. (Use 360 joules for monophasic and 120 – 200 joules for biphasic defibrillators.)
- If core temperature >30°C (86°F):
  - Continue CPR.
  - Give IV medications based on dysrhythmia (but at longer intervals).
  - Defibrillation as indicated after core temperature reaches 30°C (86°F).

SEVERITY LEVELS OF HYPOTHERMIA AND ASSOCIATED SYMPTOMS		
MILD	97°F – 95°F (36.1°C – 35°C)	cold sensation, shivering, unable to perform complex tasks with hands
MODERATE	95°F – 93°F (35°C – 33.9°C)	intense shivering, clumsy and uncoordinated, mild confusion, slow and labored movements
	93°F – 90°F (33.9°C – 32.2°C)	violent shivering, difficulty with speech, sluggish thinking, mild amnesia, may appear drunk
SEVERE	90°F – 86°F (32.2°C – 30°C)	shivering stops, unable to walk, incoherent, irrational
	<86°F (30°C)	progressive stupor to unconsciousness, loss of awareness
	<82°F (27.8°C)	unconscious, respiration and heartbeat erratic, pulse not palpable, pulmonary edema, cardiac and respiratory arrest, death

OBSTETRICAL EMERGENCIES 2.7

BASIC/INTERMEDIATE STANDING ORDERS

B/I

- Routine Patient Care.
- OB assessment
  - Length of pregnancy, number of pregnancies, number of viable births, number of non-viable births, last menstrual period, due date, prenatal care, number of expected babies, drug use
  - Signs of imminent delivery: membrane rupture or bloody show, contractions, urge to move bowels, urge to push
  - Signs of preeclampsia: hypertension, edema, epigastric pain
- Expose as necessary to assess for bleeding/discharge, crowning, prolapsed cord, breech, limb presentation
- Do not digitally examine or insert anything into the vagina.
  - Exceptions: fingers may be inserted to manage baby's airway in breech presentation or to treat prolapsed or nuchal cord
- Place mother in left-lateral recumbent position except as noted.
- Prolapsed cord: knee-chest position or Trendelenberg position; immediately and continuously support infant head or body with a hand to permit blood flow through cord. Transport immediately to closest hospital.
- Notify the hospital and Medical Control if:
  - Postpartum hemorrhage
  - Breech presentation
  - Limb presentation
  - Nuchal cord
  - Prolapsed cord

PARAMEDIC STANDING ORDERS

P

- Active seizures—see Seizures 2.13.
- Postpartum hemorrhage:
  - consider oxytocin 20 units in 1000ml 0.9% NaCl (normal saline) at a rate of 200 – 600ml/hr.
- Tocolysis for preterm labor: 0.9% NaCl (normal saline) IV bolus 20ml/kg as needed
  - Contraindications: gestation beyond 37 weeks, preeclampsia, vaginal bleeding

CARE OF THE NEWBORN 2.8P

BASIC/INTERMEDIATE/PARAMEDIC STANDING ORDERS

- Routine Patient Care—dry, warm, position, suction, stimulate.
- Assess airway, by positioning and clearing secretions.
  - Place newborn on back or side with head in neutral or slightly extended position.
  - Suction airway secretions with bulb syringe; avoid excessive pharyngeal stimulation.
- Assess clarity of amniotic fluid.
  - If amniotic fluid is contaminated with meconium, use bulb syringe to suction mouth, then nose before drying and stimulating.
  - In the newborn with thick, particulate meconium, suctioning should be performed immediately upon delivery of the head.
  - If, after suctioning, the newborn has absent or depressed respirations and decreased muscle tone proceed to Newborn Resuscitation Protocol 2.9P.
- Clamp and cut umbilical cord.
  - After initial assessment and after the cord stops pulsating.
  - Leave a minimum of six inches of cord.
- Prevent heat loss by rapidly drying and warming.
  - Remove wet linen, wrap newborn in blankets and cover head.
  - Consider placing newly born skin-to-skin on mother's chest or abdomen.
- Assess breathing by providing tactile stimulation.
  - Flick soles of feet and/or rub back.
  - If newly born is apneic or has gasping respirations, nasal flaring, or grunting, proceed to Newborn Resuscitation Protocol 2.9P.
- Assess circulation, heart rate, and skin color.
  - Evaluate heart rate by one of several methods:
    - Auscultate apical beat with a stethoscope.
    - Palpate the pulse by lightly grasping the base of the umbilical cord.
  - If pulse is <100 bpm and not increasing, proceed to Newborn Resuscitation Protocol 2.9P.
  - Assess skin color; examine central structures and mucus membranes.
- Record APGAR scores at 1 minute and 5 minutes (see APGAR chart).
  - If APGAR is <7, proceed to Newborn Resuscitation Protocol 2.9P.
  - Record vital signs (see Pediatric Vital Signs chart)

B/I/P

NEWBORN RESUSCITATION 2.9P

This protocol assumes routine care of the newborn has been performed and reveals a newborn in need of resuscitation. (APGAR <7, respiratory distress, bradycardia and/or poor muscle tone).

BASIC/INTERMEDIATE STANDING ORDERS

B/I

- Routine Patient Care—dry, warm, position, suction, stimulate (refer to Care of the Newborn Protocol 2.8P).
- Maintain an open airway—place head in neutral or slightly extended position.
- Suction the mouth, then nose. If meconium is present, suction the hypopharynx.
- Rapidly warm and dry the newborn, place on a dry blanket, cover the head and keep the newborn warm.
- If the infant is ventilating adequately, administer free-flow (blow-by) 100% oxygen at a minimum of 15 liters per minute, close to the face.
- If ventilations are inadequate, or if the chest fails to rise, reposition the head and neck, suction, and initiate positive pressure (bag valve mask) ventilations with high-flow oxygen at 40 – 60 breaths per minute.
- Reassess in 30 seconds; if no improvement, continue ventilations.
- Assess heart rate, auscultate apical beat with a stethoscope or palpate the pulse by lightly grasping the base of the umbilical cord.
- For heart rate **60 – 80** and rapidly rising:
  - Continue manual ventilation, reassess in 30 seconds.
- For heart rate less than **60**, or **60 – 80** and not rapidly rising:
  - Initiate CPR, 3:1 ratio (for a range of 90 compression/minute and 30 ventilations/minute); reassess every 30 seconds; if not improving continue CPR.
  - Initiate transport as soon as possible with or without ALS.
  - Notify receiving hospital.

PARAMEDIC STANDING ORDERS

P

- If meconium is present and the newborn is not vigorous (poor muscle tone, weak respiratory effort, or hear rate <100 bpm), perform direct endotracheal suctioning.
- If bag valve mask ventilation is inadequate or chest compressions are indicated, intubate the newborn using a 3.0mm or 4.0mm endotracheal tube. (For a newborn born before 28 weeks gestation, a 2.5mm endotracheal tube should be used).
- Establish IV, IO, or umbilical vein access. Obtain blood sample, if possible.
  - If hypovolemia is suspected, administer 10ml/kg bolus 0.9% NaCl (normal saline) over 5 – 10 minutes.
  - Epinephrine (1:10,000) 0.01 – 0.03mg/kg IV/IO/UVC (0.1 – 0.3ml/kg); **OR**
    - IV is preferred route for epinephrine, however may consider ETT administration of 0.3 to 1.0ml/kg of 1:10,000.
  - If glucose level is less than 60mg/dL with associated altered mental status:
    - Administer dextrose per length-based resuscitation tape.

ALS Notes: Flush all meds with 0.5 to 1.0ml 0.9% NaCl (normal saline) or follow all ETT meds with positive pressure ventilation.

PAIN MANAGEMENT—ADULT & PEDIATRIC 2.10

BASIC/INTERMEDIATE STANDING ORDERS

B/I

- Routine Patient Care.
- Place the patient in a position of comfort if possible.
- Give reassurance, psychological support, and distraction.
- Use ample padding for long and short spinal immobilization devices.
- Use ample padding when splinting possible fractures, dislocations, sprains and strains. Elevate injured extremities if possible. Consider application of cold pack for 30 minutes.
- Have the patient rate their pain on a 0 to 10 or appropriate pediatric pain scale*.
- Reassess the patient's pain level and vital signs every 5 minutes.
  - 0 – 10 scale: Avoid coaching the patient, simply ask them to rate their pain on a scale from 0 – 10, where 0 is no pain at all and 10 is the worst pain ever experienced by the patient.
  - Wong-Baker "faces" scale: The faces correspond to numeric values from 0 –10. The scale can be documented with the numeric value or the textual pain description.

0 NO HURT | 2 HURTS A LITTLE | 4 HURTS A LITTLE MORE | 6 HURTS EVEN MORE | 8 HURTS WHOLE LOT | 10 HURTS WORST

NOTE: A scavenger should be used and the ventilation fan should be running while administering nitronox.

PARAMEDIC STANDING ORDERS—ADULT

P

Unless the patient has altered mental status or multi-systems trauma, the paramedic may consider, for pain control, one of the following:

- Ketorolac*: 15 – 30mg IV or 30 – 60mg IM (no repeat)
  - Consider as first line in renal colic. Avoid Ketorolac in patients with NSAID allergy, aspirin sensitive asthma, or known peptic ulcer disease.

One of the following opiates:

- Morphine*: 1 – 5mg IV/IM every 10 minutes to a total of 15mg titrated to pain relief and systolic BP is greater than 100, **OR**
- Fentanyl*: 25 – 50 micrograms slow IV, 50 micrograms IM, every 5 minutes up to a total of 150 micrograms IV/IM, or 1.4 micrograms/kg IN,
- For hypoventilation from opiate administration by EMS personnel, administer naloxone 0.4mg SQ/IV/IM/IN/ETT as needed.

If the patient has not already received an opiate, the paramedic may consider:

- Nitronox**: (Patient must be able to self-administer this medication.) (Contraindicated in abdominal pain, pneumothorax, head injured, or diving emergency patients.)
- Nausea: Refer to Nausea Protocol 2.14.

PARAMEDIC STANDING ORDERS—PEDIATRIC

- Fentanyl* 0.5 micrograms/kg IV/IM every 5 minutes. May be repeated up to a total of 3 doses, **OR**
- Morphine* 0.1mg/kg IV every 5 minutes. May be repeated up to 3 doses.

Contact Medical Control for guidance with all patients with altered mental status or multi-systems trauma or for requests to provide additional doses of a medication.

*Use cautiously in frail or debilitated patients; lower doses should be considered.

FEVER (>101.5°F/38.5°C)—ADULT 2.11

This protocol is **NOT** intended for patients suffering from environmental hyperthermia (see Hyperthermia Protocol 2.5).

BASIC/INTERMEDIATE STANDING ORDERS

B/I

- Routine Patient Care.
- Obtain temperature.
- Passive cooling; remove excessive clothing/bundling.
- Avoid inducing shivering.

PARAMEDIC STANDING ORDERS

P

- For temperature greater than 101.5°F (38.5°C)
  - If no acetaminophen has been taken in last 4 hours:
    - Consider administering acetaminophen 500 – 1000mg PO.
  - If acetaminophen has been taken within last 4 hours and temperature is still greater than 101.5F (38.5°C):
    - Consider administering ibuprofen 400 – 800mg PO.
  - If ibuprofen has been taken within the last 6 hours:
    - Consider acetaminophen 500 – 1000mg PO.

FEVER (>101.5°F/38.5°C)—PEDIATRIC *2.11P*

This protocol is **NOT** intended for patients suffering from environmental hyperthermia (see Hyperthermia Protocol 2.5).

BASIC/INTERMEDIATE STANDING ORDERS

B/I

- Routine Patient Care.
- Obtain temperature—rectal temperature preferred as appropriate.
- Passive cooling; remove excessive clothing/bundling.
- Avoid inducing shivering.

PARAMEDIC STANDING ORDERS

P

- For temperatures greater than 101.5°F (38.5°C):
  - If acetaminophen was last taken more than 4 hours ago:
    - Consider administer of acetaminophen 15mg/kg PO/PR.
  - If acetaminophen has been taken within last 4 hours, but was less than 15mg/kg:
    - Consider acetaminophen at a dose to bring total taken in last 4 hours to 15mg/kg.
  - If maximum dose of acetaminophen has been taken within the last 4 hours:
    - Consider ibuprofen 10mg/kg PO (contraindicated in infants under 6 months of age).
  - If ibuprofen has been taken within last 6 hours, but was less than 10mg/kg:
    - Consider ibuprofen at a dose to bring total taken within the last 6 hours to 10mg/kg (contraindicated in infants under 6 months of age).

POISONING/SUBSTANCE ABUSE/OVERDOSE—ADULT 2.12

BASIC STANDING ORDERS

B

- Consider waiting for law enforcement to secure the scene.
- Remove patient from additional exposure.
- Routine Patient Care.
- Contact Poison Control at (800) 222-1222 as soon as practical.
- Absorbed poison
  - Remove clothing and fully decontaminate.
  - If eye is involved, irrigate at least 20 minutes without delaying transport.
- Inhaled/injected poison
  - Administer high-flow oxygen.
  - NOTE: Pulse oximetry may not be accurate for toxic inhalation patients.
- Ingested poison
  - Consider activated charcoal 25 – 50 grams PO if ordered by Poison Control or Medical Control.
  - Bring container to receiving hospital.
- For MCI related to organophosphate exposure, see Nerve Agent & Organophosphates Protocol 8.2.
- For suspected isolated cyanide poisoning, see Cyanide Protocol 2.15.

INTERMEDIATE STANDING ORDERS

I

- Suggested narcotic antidotes: Naloxone 0.4 – 2mg IV/IM/SQ/IN or ETT (paramedic only). If no response, may repeat initial dose every 5 minutes to a total of 10mg.

PARAMEDIC STANDING ORDERS

P

Suggested Antidotes

▶ Tricyclic	Sodium bicarbonate 1mEq/kg IV
▶ Beta blocker	Glucagon 2 – 5mg IV/IM/SQ
▶ Ca Channel Blocker	Calcium chloride 1 – 2 grams IV bolus followed by 20 – 40mg/kg/hr Glucagon 2 – 5mg IV/IM/SQ
▶ Dystonic reaction	Diphenhydramine 25 – 50mg IV for dystonic reactions induced by antipsychotics, such as haloperidol, or anti-emetics such as prochlorperazine or metoclopramide
▶ Organophosphates	Atropine 2mg IV every 5 minutes as needed and pralidoxime 1 – 2 gram IV over 30 – 60 minutes

POISONING/SUBSTANCE ABUSE/OVERDOSE—PEDIATRIC 2.12P

BASIC/INTERMEDIATE STANDING ORDERS

B/I

- Consider waiting for law enforcement to secure the scene.
- Remove patient from additional exposure.
- Routine Patient Care.
- Contact Poison Control at (800) 222-1222 as soon as practical.
- Absorbed poison
  - Remove clothing and fully decontaminate.
  - If eye is involved, irrigate at least 20 minutes without delaying transport.
- Inhaled/injected poison
  - Administer high-flow oxygen.
  - **NOTE**: Pulse oximetry may not be accurate for toxic inhalation patients.
- Ingested poison
  - Consider activated charcoal per length-based resuscitation tape if ordered by Poison Control or Medical Control.
  - Bring container to receiving hospital.
- For MCI related to organophosphate exposure, see Nerve Agent & Organophosphates Protocol 8.2P.
- For suspected isolated cyanide poisoning see Cyanide Poisoning Protocol—Pediatric 2.15P.

PARAMEDIC STANDING ORDERS

P

Suggested Antidotes

▶ Narcotic	Nalaxone 0.1mg/kg up to 2mg, IV/IM/SQ/IN or ETT
▶ Tricyclic	Sodium bicarbonate 1mEq/kg IV
▶ Beta blocker	Glucagon 0.025 – 0.05mg/kg IV
▶ Ca channel blocker	Calcium chloride 20mg/kg/dose IV over 5 minutes, repeat once if necessary Glucagon 0.025 – 0.05mg/kg IV
▶ Dystonic reaction	Diphenhydramine 0.5mg/kg IV/IM for dystonic reactions induced by anitpsychotics, such as haloperiodol or anitemetics such as prochlorperazine or metoclopramide
▶ Organophosphates	Atropine: 0.05 – 0.1mg/kg IV/IM (minimum dose of 0.1mg, maximum dose 5mg), repeat every 2 – 5 minutes as needed Pralidoxime: 25 – 50mg/kg/dose IV for maximum dose gram or IM for maximum dose of 2 grams, repeat within 30 – 60 minutes as needed, and every hour for 1 – 2 doses as needed.

SEIZURES—ADULT 2.13

BASIC/INTERMEDIATE STANDING ORDERS

B/I

- Routine Patient Care.
- Do not attempt to restrain the patient; protect the patient from injury.
- History preceding seizure is very important. Find out what precipitated the seizure (e.g., medication non-compliance, active infection, trauma, hypoglycemia, substance abuse, third-trimester pregnancy, etc.).
  - Has diazepam rectal gel (Diastat) been prescribed by patient's physician? If yes, advise caregiver to administer according to patient's prescribed treatment.
  - Determine if the patient has an implanted vagus nerve stimulator (VNS). Ascertain when vagus nerve stimulator was implanted, when last checked by physician, current settings, history of magnet use, and changes in seizure intensity; assist family members with passing the magnet over the stimulator.

PARAMEDIC STANDING ORDERS

P

- If generalized seizure activity is present, consider:
  - Lorazepam 1 – 2mg IV/IM repeated every 5 minutes to a total of 8mg, **OR**
  - Diazepam 5mg IV (then 2.5mg IV every 5 minutes to total of 10mg), **OR**
  - Midazolam 1 – 2.5mg IV/IM/IN repeated every 5 minutes or until seizure activity is abolished.
- Consider magnesium sulfate 4 grams IV over 5 minutes in presence of seizure in third trimester of pregnancy.
- If the patient has an implanted vagus nerve stimulator: pass magnet closely over chest area where the VNS device is implanted. Wait to see if seizure stops, if not, repeat every 3 – 5 minutes for a total of 3 times.

Siezures continued on next page ⇨

SEIZURES—PEDIATRIC 2.13P

⇦ Siezures continued from previous page

BASIC/INTERMEDIATE STANDING ORDERS

B/I

- Routine Patient Care.
- Do not attempt to restrain the patient; protect the patient from injury.
- History preceding seizure very important. Find out what precipitated seizure (e.g., medication non-compliance, active infection, trauma, substance abuse, fever, etc.).
  - Has diazepam rectal gel (Diastat) been prescribed by the patient's physician? If yes, advise caregiver to administer according to patient's prescribed treatment
  - Determine if the patient has an implanted vagus nerve stimulator. Ascertain when the vagus nerve stimulator was implanted, when last checked by physician, current settings, history of magnet use, and changes in seizure intensity; assist family members with placement of magnet over the stimulator.
- Obtain the patient's temperature (rectal route preferred as appropriate).

PARAMEDIC STANDING ORDER

P

- If blood glucose reading less than 60mg/dl, see Diabetic Emergencies Pediatric Protocol 2.3P.
- If generalized seizure activity is present, consider:
  - Lorazepam 0.1mg/kg IV/IM (single maximum dose 2mg), **OR**
  - Midazolam 0.1mg/kg IV/IM or 0.2mg/kg IN (single maximum dose 6mg), **OR**
  - Diazepam 0.2mg/kg IV or 0.5mg/kg PR (single maximum dose 5mg IV or 10mg PR).
- Any of the above may be repeated once after 5 minutes.
- If the patient has an implanted vagus nerve stimulator: pass magnet closely over chest area where the VNS is implanted. Wait to see if seizure stops, if not, repeat every 3 – 5 minutes for a total of 3 times.

NAUSEA/VOMITING—ADULT & PEDIATRIC 2.14

BASIC STANDING ORDERS

B

- Routine Patient Care.

INTERMEDIATE STANDING ORDERS—ADULT

I

- 500ml 0.9% NaCl (normal saline) IV fluid bolus for dehydration

PARAMEDIC STANDING ORDERS—ADULT

P

- Prochlorperazine 5mg – 10mg IV, **OR** 5mg IM, **OR**
- Ondansetron 4mg IV or IM, **OR**
- Metoclopramide 5mg IV or IM, **OR**
  - May repeat any of the above medications once after 10 minutes if nausea/vomiting persists
- Granisetron 0.1mg – 1mg IV over 5 minutes (one-time dose)
- Dolasetron 12.5mg IV (one-time dose)
- For dystonic reactions caused by EMS administration of prochlorperazine or metoclopramide:
  - Consider administering diphenhydramine 25 – 50mg IV/IM

PARAMEDIC STANDING ORDERS—PEDIATRIC

- 10 – 20ml/kg 0.9% NaCl (normal saline) IV fluid bolus for dehydration
- Ondansetron 0.1mg/kg IV (maximum single dose 4mg), **OR**
- Granisetron 10 micrograms/kg IV over 5 minutes

CYANIDE POISONING—ADULT 2.15

BASIC STANDING ORDERS

B

- Symptoms: headache, confusion, dyspnea, chest tightness, nausea
- Signs: change in LOC, seizure, dilated pupils, tachypnea and HTN (early); bradypnea and hypotension (late), shock, vomiting
- Decontamination concurrent with initial resuscitation
  - If patient exposed to gas only, and does not have skin or ocular irritation, decontamination is not needed.
  - If patient exposed to liquid, decontamination required. Avoid self-contamination.
- Routine Patient Care.
- Note that pulse oximetry may be inaccurate.
- For **symptomatic** patients presenting with **known exposure** to cyanide, consider administering amyl nitrite inhalant from Cyanide Antidote Kit.

CYANIDE ANTIDOTE KIT*

- Crush 1 ampule of amyl nitrite inhalant into gauze.
- Administer by:
  - Patient inhaling directly through gauze, **OR**
  - Placing gauze within facemask, **OR**
  - Placing gauze over intake valve of bag valve mask
- Allow inhalation of amyl nitrite for 15 – 30 seconds alternating with 100% oxygen.
- Use new ampule every 3 minutes until IV is established.

INTERMEDIATE/PARAMEDIC STANDING ORDERS

I/P

If symptoms continue, consider additional treatment utilizing either the Cyanide Antidote Kit or the Cyanokit. If both are available, hydroxocobalamine from the Cyanokit is the preferred treatment.

CONTINUATION OF CYANIDE ANTIDOTE KIT*

- Administer sodium nitrite: 300mg IV over 5 minutes (10ml of a 3% solution).
- Administer sodium thiosulfate: 12.5 grams IV over 15 minutes (50ml of a 25% solution).
- Repeat a half dose of sodium nitrite and sodium thiosulfate if symptoms persist after 20 minutes.

USE OF CYANOKIT**

- Dilute each of 2 vials of Hydroxocobalamine with 100ml of normal saline.
- Rock vials for 30 seconds (do not shake).
- Administer both vials by IV over 15 minutes (7.5 minutes per vial).
- Depending on clinical response, a second dose may be required.
- Prepare 2 more vials and infuse at rate ranging between 15 minutes (for patients in extremis) and 120 minutes.

Note: Do not administer other drugs concurrently in same IV as Hydroxocobalamine.

*Cyanide Antidote Kit: each kit contains 12 ampules of amyl nitrite inhalant, 2 ampules of 300mg sodium nitrite in 10ml of water, and 2 ampules of 12.5g sodium thiosulfate in 50ml of water.

** Cyanokit: each kit contains two, 250ml glass vials, each containing 2.5 grams lyophilized hydroxocobalamin for injection, two sterile transfer spikes, 1 sterile IV infusion set, and 1 quick-use reference guide. (Diluent is not included.)

CYANIDE POISONING—PEDIATRIC 2.15P

BASIC/INTERMEDIATE STANDING ORDERS

B/I

- Symptoms: headache, confusion, dyspnea, chest tightness, nausea
- Signs: change in LOC, seizure, dilated pupils, tachypnea and HTN (early)
- Bradypnea and hypotension (late), shock, vomiting
- Decontamination concurrent with initial resuscitation:
  - If patient is exposed to gas only, and does not have skin or ocular irritation, decontamination is not needed.
  - If patient exposed to liquid, decontamination required. Avoid self-contamination.
- Routine Patient Care.
- Note that pulse oximetry may be inaccurate.
- For **symptomatic** patients presenting with **known exposure** to cyanide, consider administering amyl nitrite inhalant from Cyanide Antidote Kit.

CYANIDE ANTIDOTE KIT*

- Crush 1 ampule of nitrite inhalant into gauze.
- Administer by:
  - Patient inhaling directly through gauze, **OR**
  - Placing gauze within facemask, **OR**
  - Placing gauze over intake valve of bag valve mask.
  - Allow inhalation of amyl nitrite 15 – 30 seconds alternating with 100% oxygen.
- Use new ampule every 3 minutes until IV is established.

PARAMEDIC STANDING ORDERS

P

If symptoms continue, consider additional treatment utilizing either the Cyanide Antidote Kit or the Cyanokit. If both are available, hydroxocobalamine from the Cyanokit is the preferred treatment.

CONTINUATION OF CYANIDE ANTIDOTE KIT*

- Administer sodium nitrite: 0.3ml/kg of a 3% solution IV over 5 minutes.
- Administer sodium thiosulfate: 1.65ml/kg IV over 15 minutes, (25% solution).
- Repeat a half dose of sodium nitrite and sodium thiosulfate if symptoms persist after 20 minutes.

USE OF CYANOKIT**

- Dilute each of 2 vials of Hydroxocobalamine with 100ml of normal saline to yield a 25 grams/ml solution.
- Rock vials for 30 seconds (do not shake)
- Administer 70mg/kg by IV over 15 minutes.
- Depending on clinical response, a second dose may be required for a total dose of 140 mg/kg.
- Infuse second dose at a rate ranging between 15 minutes (for patients in extremis) and 120 minutes.

Note: Do not administer other drugs concurrently in same IV as Hydroxocobalamine.

*Cyanide Antidote Kit: each kit contains 12 ampules of amyl nitrite inhalant, 2 ampules of 300mg sodium nitrite in 10ml of water, and 2 ampules of 12.5 grams sodium thiosulfate in 50ml of water.

** Cyanokit: each kit contains two, 250ml glass vials, each containing 2.5 grams lyophilized hydroxocobalamin for injection, 2 sterile transfer spikes, 1 sterile IV infusion set, and one quick-use reference guide. (Diluent is not included.)

BRADYCARDIA (SYMPTOMATIC)—ADULT 3.0

BASIC/INTERMEDIATE STANDING ORDERS

B/I

- Routine Patient Care.
- 12-lead ECG if available and does not delay transport.

PARAMEDIC STANDING ORDERS

P

If symptomatic and hemodynamically unstable:

- Consider transcutaneous pacing.
  - Attempt capture at 70 – 80 bpm at minimum output and increase to a max of 200 mA until electrical and mechanical capture are achieved.
  - Discontinue transcutaneous pacing if no capture achieved at 200 mA.
- Consider procedural sedation prior to or during transcutaneous pacing.
  - Lorazepam 1mg IV or 2mg IM; may repeat once in 5 minutes, **OR**
  - Midazolam 2.5mg IV/IM/IN; may repeat once in 5 minutes, **OR**
  - Diazepam 2mg IV or 5mg IM; may repeat once in 5 minutes.

If symptomatic, but hemodynamically stable:

- Consider atropine 0.5mg IV (1mg via ETT) every 3 – 5 minutes up to a total of 0.04mg/kg or 3mg.
- Consider epinephrine infusion at 2 – 10 microgram/minute.
- Consider dopamine infusion 2 – 20 microgram/kg/minute.
- For beta blocker or calcium channel blocker overdose, consider glucagon 2 – 5mg IV over 2 – 5 minutes.
- For calcium channel blocker overdose, consider calcium chloride 1 – 2 grams IV over 10 minutes, followed by 20 – 40mg/kg/hour infusion.
- Flumazenil 0.2mg IV over 30 seconds to reverse the effects of benzodiazepines that were administered by EMS personnel.
- For other toxicologic emergency or overdose, see Poisoning/Substance Abuse/Overdose Protocol 2.12.

AHA Circulation 2005; 112; IV-67-IV-69

BRADYCARDIA (SYMPTOMATIC)—PEDIATRIC 3.0P

BASIC/INTERMEDIATE STANDING ORDERS

B/I

- Routine Patient Care.
- Consider underlying causes of bradycardia: hypoxia, hypoglycemia, hypovolemia, and hypothermia.
- Provide high-flow oxygen and consider assisting ventilations.
- Begin/continue CPR in child if HR less than 60 bpm with hypoperfusion despite adequate ventilation and oxygenation.
- 12-lead ECG if available and does not delay transport.

PARAMEDIC STANDING ORDERS

P

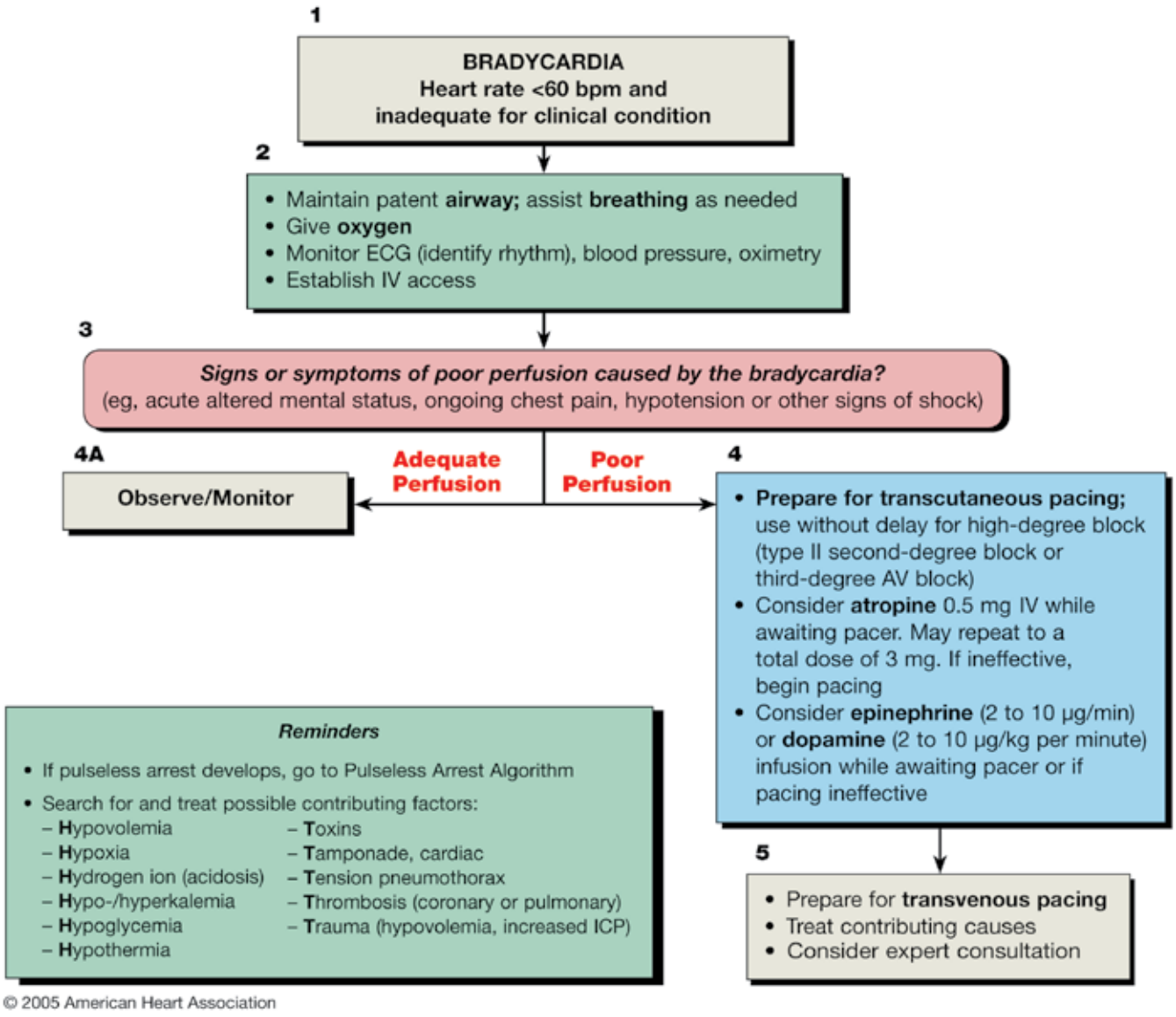
- Epinephrine 0.01mg/kg IV (0.1ml/kg of **1:10,000**) every 3 – 5 minutes, **OR**
- Epinephrine 0.1mg/kg ETT (0.1ml/kg of **1:1000**) every 3 – 5 minutes.
- Consider atropine 0.02mg/kg IV (min. single dose 0.1mg; total max dose 0.04mg/kg).
- Consider transcutaneous pacing at minimum output and increase until capture achieved for rate appropriate to age.
- Consider procedural sedation prior to/during pacing.
  - Midazolam 0.05mg/kg IV, **OR**
  - Diazepam 0.05mg/kg IV
- For hypoglycemia see Hypoglycemic Emergencies Protocol 2.3P.
- For beta blocker or calcium channel blocker overdose, consider glucagon 0.025 – 0.5mg/kg IV.
- For calcium channel blocker overdose consider calcium chloride 20mg/kg IV over 5 minutes; repeat once if necessary.
- Flumazenil 0.01mg/kg IV (Maximum dose 0.2mg) over 30 seconds to reverse the adverse effects of benzodiazepines that were administered by EMS personnel.
- For other toxicologic emergency or overdose see Poisoning/Substance Abuse/Overdose Protocol 2.1P.

PEDIATRIC VITAL SIGNS BY AGE

Age	Heart Rate Avg.	Heart Rate Range	Respiratory Range	Systolic BP Avg.	Range
Newborn	140	110 – 180	40 – 60	72	52 – 92
1 month	135	90 – 170	30 – 50	82	60 – 104
1 year	120	80 – 160	20 – 30	94	70 – 118
2 years	110	80 – 130	20 – 30	95	73 – 117
4 years	105	80 – 120	20 – 30	96	65 – 117
6 years	100	75 – 115	18 – 24	97	76 – 116
8 years	90	70 – 110	18 – 22	99	79 – 119
10 years	90	70 – 110	16 – 20	102	82 – 122
12 years	85	60 – 110	16 – 20	106	84 – 128
14 years	80	60 – 105	16 – 20	110	84 – 136

AHA Circulation 2005; 112; IV-175

BRADYCARDIA ALGORITHM *3.0*



TACHYCARDIA—ADULT 3.1

BASIC/ INTERMEDIATE STANDING ORDERS

B/I

- Routine Patient Care.
- 12-lead ECG if available and does not delay transport.

PARAMEDIC STANDING ORDERS—ADULT

FOR SYMPTOMATIC HEART RATE GREATER THAN 150 BPM

- Consider vagal maneuvers.

IF SYMPTOMATIC AND HEMODYNAMICALLY UNSTABLE

P

- Consider procedural sedation if practical.
  - Lorazepam 1mg IV or 2mg IM; may repeat once in 5 minutes, **OR**
  - Midazolam 2.5mg IV/IM/IN; may repeat once in 5 minutes, **OR**
  - Diazepam 2mg IV or 5mg IM; may repeat once in 5 minutes.
- Synchronized cardioversion
  - For V-Tach, A-Fib, PSVT: 100J, 200J, 300J, 360J*
  - For A-Flutter: 50J, 100J, 200J, 300J, 360J*
  - For Polymorphic V-Tach: 200J, 300J, 360J*

* or biphasic equivalents

IF SYMPTOMATIC, BUT HEMODYNAMICALLY STABLE

- For PSVT or narrow complex tachycardia:
  - Consider vagal maneuvers.
  - If vagal maneuvers fail, administer adenosine 6mg rapid IV; may repeat at dose of 12mg every 1 – 2 minutes X 2.
  - For patients who do not respond to adenosine, consider:
    - Diltiazem 0.25mg/kg IV over 2 minutes; may repeat once in 15 minutes at 0.35mg/kg. Consider infusion 5 – 15mg/hour, **OR**
    - Metoprolol 5mg over 2 – 5 minutes; may repeat every 5 minutes to a max of 15mg as needed to achieve a ventricular rate of 90 – 100.
- For WPW, consider:
  - Amiodarone 150mg IV over 10 minutes; may repeat once in 10 minutes.
- For atrial fib, atrial flutter, consider:
  - Diltiazem 0.25mg/kg IV over 2 minutes. (Note contraindication: WPW); may repeat once in 15 minutes at 0.35mg/kg. Consider infusion at 5 – 15mg/hour, **OR**
  - Metoprolol 5mg over 2 – 5 minutes; may repeat every 5 minutes to a maximum of 15mg as needed to achieve a ventricular rate of 90 – 100.
- For uncertain wide complex tachycardia, consider:
  - Amiodarone 150mg IV over 10 minutes, may repeat once in 10 minutes.

Tachycardia—Adult continued on next page ⇨

TACHYCARDIA—ADULT continued *3.1*

⇦ *Tachycardia—Adult continued from previous page*

P

- For V-Tach with a pulse consider:
  - Amiodarone 150mg IV over 10 minutes; may repeat in 10 minutes, **OR**
  - Lidocaine 1 – 1.5 mg/kg followed in 5 minutes by repeat bolus of 0.5 – 0.75mg/kg IV; may repeat every 3 – 5 minutes to a max of 3mg/kg.
- If polymorphic V-Tach/Torsades, consider:
  - Magnesium sulfate 1 – 2 grams IV over 5 minutes (note dose change).

AHA Circulation 2005; 112; IV-69-IV-77

TACHYCARDIA—PEDIATRIC 3.1P

BASIC/INTERMEDIATE STANDING ORDERS

B/I

- Routine Patient Care.
- 12-lead ECG if available and does not delay transport.

PARAMEDIC STANDING ORDERS

P

- Consider vagal maneuvers.
- Consider treatable causes.

IF SYMPTOMATIC AND HEMODYNAMICALLY UNSTABLE

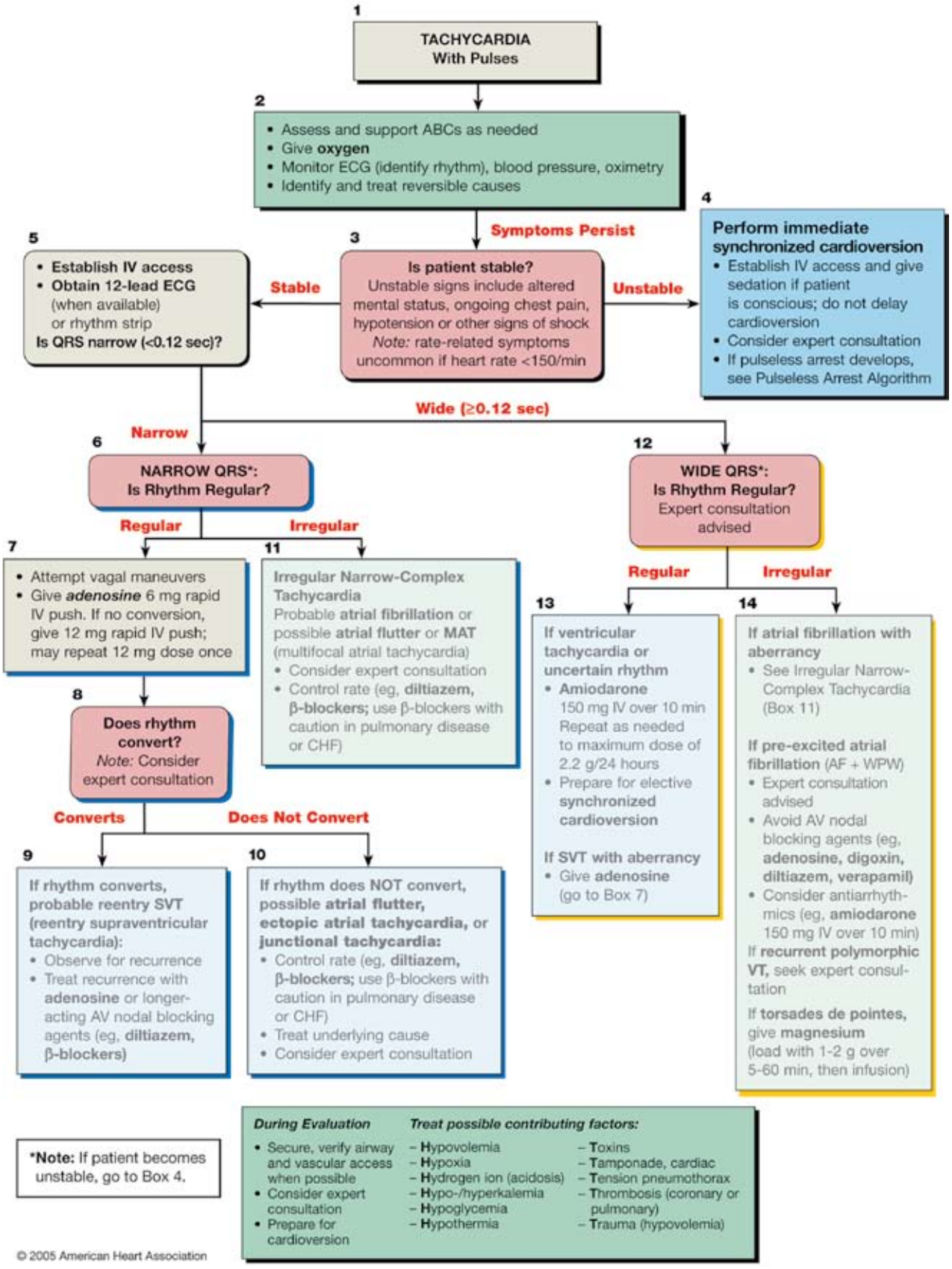
- Consider procedural sedation prior to cardioversion.
  - Midazolam 0.05mg/kg IV, **OR**
  - Diazepam 0.05mg/kg IV
    - Flumazenil 0.01mg/kg IV (Maximum dose 0.2mg) over 30 seconds to reverse the adverse effects of benzodiazepines that were administered by EMS personnel
  - Cardioversion:
    - 0.5 – 1J/kg; if unsuccessful, administer 2J/kg

IF SYMPTOMATIC, BUT HEMODYNAMICALLY STABLE

- For suspected V-Tach with a pulse, consider:
  - Amiodarone 5mg/kg (maximum dose 300mg) IV over 20 – 60 minutes, **OR**
  - Lidocaine 1mg/kg (maximum dose 100mg) IV bolus
- For PSVT or narrow complex tachycardia, consider:
  - Adenosine 0.1mg/kg IV not to exceed 6mg (first dose)
    - May repeat once at 0.2mg/kg IV not to exceed 12mg (subsequent dose), **OR**
  - Amiodarone 5mg/kg (maximum dose 150mg) IV over 20 – 60 minutes

AHA Circulation 2005; 112; IV-175-IV-179

TACHYCARDIA ALGORITHM 3.1



ACUTE CORONARY SYNDROMES—ADULT 3.2

All patients with complaints of chest pain should not automatically be treated with ASA and NTG. Consider the likelihood of ACS based on the nature of the symptoms, the patient's age, cardiac risk factors, past medical history, etc.

BASIC/INTERMEDIATE STANDING ORDERS

B/I

- Routine Patient Care.
- Administer oxygen at a rate to keep oxygen saturation above 90%.
- Aspirin 324mg PO (chewable). If patient states they cannot take ASA, call Medical Control for guidance.
- Facilitate administration of patient's own nitroglycerin every 5 minutes while symptoms persist and if systolic BP is greater than 100mmHg, up to a total of 3 doses.
- 12-lead ECG and transmission to hospital, if available and does not delay transport.
- Minimize scene time.
- Complete the following fibrinolytic questionnaire.

FIBRINOLYTIC QUESTIONNAIRE

Any trauma, surgery, or head injury within the last month?

Any current or recent active bleeding within the last month?

Any lumbar punctures, spinal anesthesia, or stroke within last month?

Any known bleeding disorder?

Do you have a clinical suspicion of aortic dissection?

Is the systolic BP greater than 180 at baseline or after Rx with NTG and/or metoprolol?

PARAMEDIC STANDING ORDERS

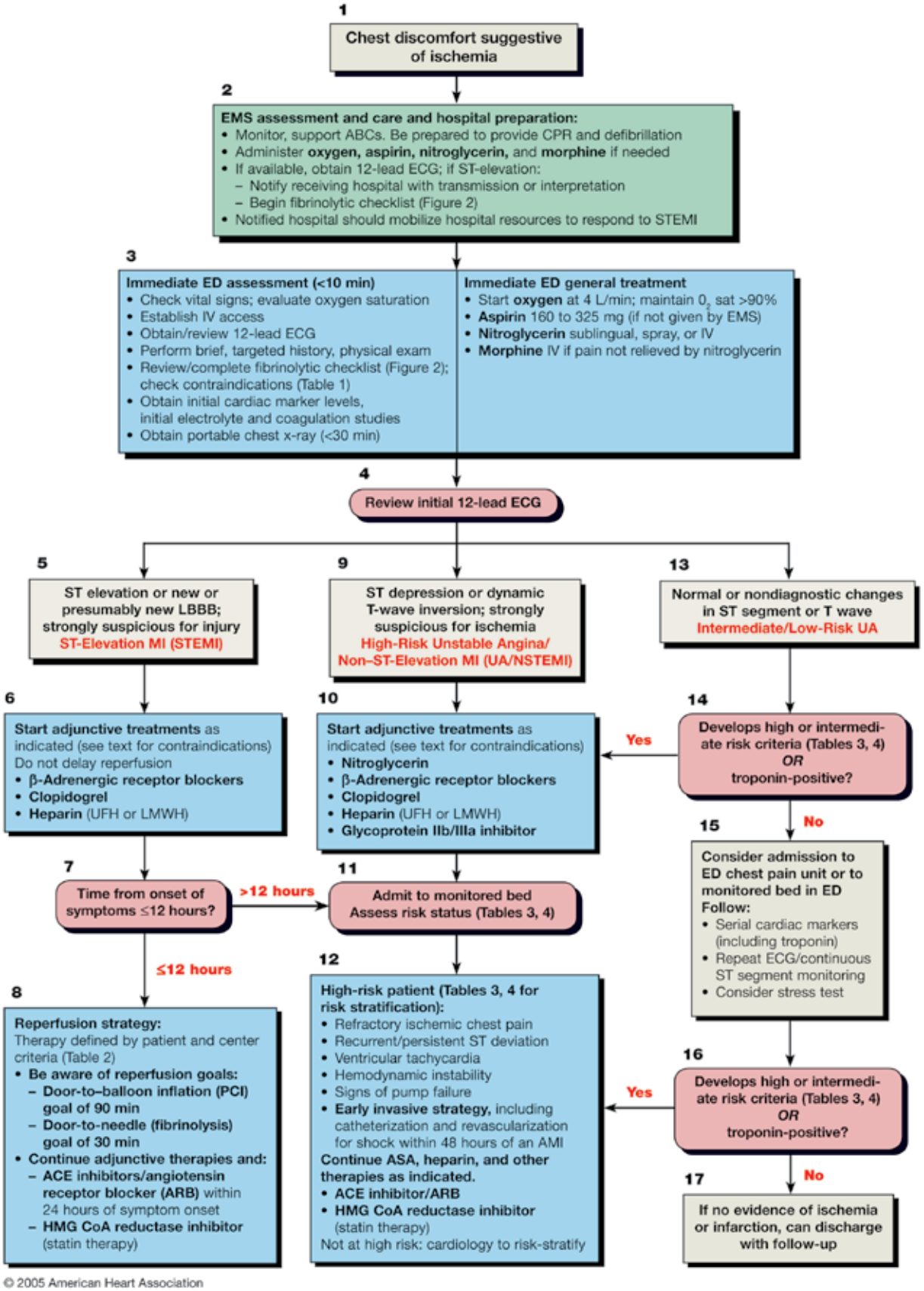
P

- Nitroglycerin 0.4mg SL every 5 minutes while symptoms persist and if systolic BP >100mmHg
- Consider IV Nitroglycerin at 10 micrograms/minute if symptoms persist after 3rd SL nitroglycerin. (There must be two (2) IV lines or a Twin Cath in place and the IV nitroglycerin must be on an infusion pump.)
- Increase IV nitroglycerin by 10 micrograms/minute every 5 minutes while symptoms persist and if systolic BP >100mmHg.
- If IV nitroglycerin is not available, then consider application of nitroglycerin paste, 1 – 2 inches transdermal.
- Consider morphine, 1 – 5mg IV/IM every 5 minutes to a maximum total of 15mg titrated to pain and if systolic BP >100mmHg.
- Consider Fentanyl 25 – 50 micrograms slow IV push every 5 minutes up to 150 micrograms for patient for patients with a morphine allergy or known/suspected right ventricular infarct.
- Consider Metoprolol: 5mg IV over 2 – 5 minutes. Repeat the dose every 5 minutes for a total of 15mg as long as the patient's systolic BP >100mmHg and HR >60 bpm.
- Treat dysrhythmias as needed; refer to appropriate protocol.

CONTACT RECEIVING FACILITY AND ACTIVATE CATH LAB TEAM

- In collaboration with Medical Control MD Consider:
  - Heparin 5000u IV bolus with evidence of STEMI in two or more contiguous leads or new Left Bundle Branch Block and no affirmative finding from fibrinolytic questionnaire

ACUTE CORONARY SYNDROMES ALGORITHM 3.2



CONGESTIVE HEART FAILURE (PULMONARY EDEMA)—ADULT 3.3

BASIC STANDING ORDERS

B

- Routine Patient Care.
- Place patient in semi-sitting or full sitting position.
- Administer oxygen at a rate to keep oxygen saturation >90%.
- Facilitate administration of patient's own nitroglycerin every 5 minutes while symptoms persist and systolic BP >100mmHg.
- 12-lead ECG if available and does not delay transport.

INTERMEDIATE STANDING ORDERS

I

- Consider Continuous Positive Airway Pressure (CPAP) with maximum 10cm H_2O pressure support.

PARAMEDIC STANDING ORDERS

P

- Consider nitroglycerin 0.4mg SL every 5 minutes while symptoms persist and if systolic BP >100mmHg.
- If not improving with above measures, and systolic BP remains above 100mmHg, consider:
  - IV nitroglycerin infusion beginning at 10 micrograms/minute, via infusion pump titrated to effect and systolic BP >100mmHg. **OR**
  - Nitroglycerin paste 1" – 2" transdermally
- Consider furosemide 40mg IV or bumetanide 1mg IV.
- Consider morphine sulfate 1 – 5mg slow IV X 1 for anxiolysis.

CARDIAC ARREST—ADULT 3.4

BASIC STANDING ORDERS

B

- Routine Patient Care—with focus on CPR.
- Apply and use AED if available.
- Consider termination of efforts or not attempting resuscitation (See DNR Orders Protocol 6.4 and/or Special Situations and Exceptions Protocol 6.5).

INTERMEDIATE STANDING ORDERS

- If IV attempts unsuccessful, consider commercial intraosseous introduction device (e.g., EZ-IO).
- Document presenting cardiac rhythm in two separate leads, if possible.
- Consider treatable causes: hypoxia, overdose/poisoning, hypothermia, hypoglycemia, hypovolemia. (Treat as per specific protocol.)

FOR VENTRICULAR FIBRILLATION (V-FIB)/PULSELESS VENTRICULAR TACHYCARDIA (V-TACH)

I

- CPR for 5 cycles/2 minutes, then defibrillation (use 360 joules for monophasic and 120 – 200 joules for biphasic defibrillators), then CPR for 5 cycles/2 minutes, then rhythm check, then:
  - Consider (if trained and certified) epinephrine (1:10,000) 1mg IV; repeat every 3 – 5 minutes.
- Continue CPR for 5 cycles/2 minutes between interventions; stop only for defibrillation, rhythm check, or return of circulation.

FOR ASYSTOLE OR PULSELESS ELECTRICAL ACTIVITY (PEA)

- Continue CPR for 5 cycles/2 minutes.
- Consider (if trained and certified):
  - Epinephrine (1:10,000) 1mg IV; repeat every 3 – 5 minutes
  - Atropine 1mg IV for asystole or bradycardic PEA; repeat every 3 – 5 minutes up to a total of 3mg
- Continue CPR for 5 cycles/2 minutes between interventions; stop only for rhythm check or return of circulation.

PARAMEDIC STANDING ORDERS

P

- Follow ACLS guidelines as trained and credentialed.
- Consider tension pneumothorax and treat with needle decompression.
- Consider a nasogastric or orogastric tube for the intubated patient.
- For suspected metabolic acidosis, suspected or known hyperkalemia (dialysis patient), or known tricyclic antidepressant overdose, consider sodium bicarbonate 1mEq/kg IV.

FOR POST-RESUSCITATION HYPOTENSION

- IV normal saline at wide open, **AND/OR**
- Consider (an infusion pump is required for the use of these pressor agents).
  - Dopamine infusion 5 – 20 microgram/kg/min., **OR**
  - Norepinephrine infusion 1 – 30 microgram/min., **OR**
  - Phenylephrine 100 – 180 microgram loading dose followed by infusion 40 – 60 microgram/min., **OR**
  - Epinephrine infusion 2 – 10 microgram/min. titrated to effect.

AHA Circulation 2005; 112; IV-58-IV-66

CARDIAC ARREST—PEDIATRIC 3.4P

BASIC/INTERMEDIATE STANDING ORDERS

B/I

- Routine Patient Care—with focus on CPR.
- From birth to eight years of age use pediatric AED pads.
  - If pediatric AED pads are unavailable, providers may use adult AED pads, provided the pads do not overlap.
- Consider termination of efforts or not attempting resuscitation (see DNR Orders Protocol 6.4 and/or Special Situations and Exceptions Protocol 6.5).
- Consider treatable causes: hypoxia, overdose/poisoning, hypothermia, hypovolemia. (Treat as per specific protocol.)

PARAMEDIC STANDING ORDERS

P

- Consider tension pneumothorax and treat with needle decompression.
- Hypoglycemia (see Diabetic Emergencies Protocol 2.3P).
- Consider nasogastric or orogastric tube for the intubated patient.
- For suspected metabolic acidosis, suspected or known hyperkalemia (dialysis patient), or known tricyclic antidepressant overdose, consider sodium bicarbonate 1mEq/kg IV.

FOR VENTRICULAR FIBRILLATION (V-FIB)/PULSELESS VENTRICULAR TACHYCARDIA (V-TACH)

- Defibrillate at 2 J/kg; deliver 5 cycles of CPR and recheck rhythm; if still a shockable rhythm, defibrillate at 4 J/kg; deliver 5 cycles of CPR; administer epinephrine (1:10,000) 0.01mg/kg (0.1ml/kg) IV/IO **OR** 0.1mg/kg (1:1000; 0.1ml/kg) via ETT.
  - Repeat every 3 – 5 minutes.
- If still a shockable rhythm, defibrillate at 4 J/kg; deliver 5 cycles of CPR; consider:
  - Amiodarone 5 mg/kg (maximum 300mg) IV, **OR**
  - Lidocaine 1mg/kg (maximum 100mg) IV
  - Magnesium sulfate 25 – 50mg/kg (max. 2 grams) IV over 1 – 2 minutes for torsades de pointes
- If pulse obtained, begin post-resuscitation care.

FOR ASYSTOLE OR PULSELESS ELECTRICAL ACTIVITY (PEA)

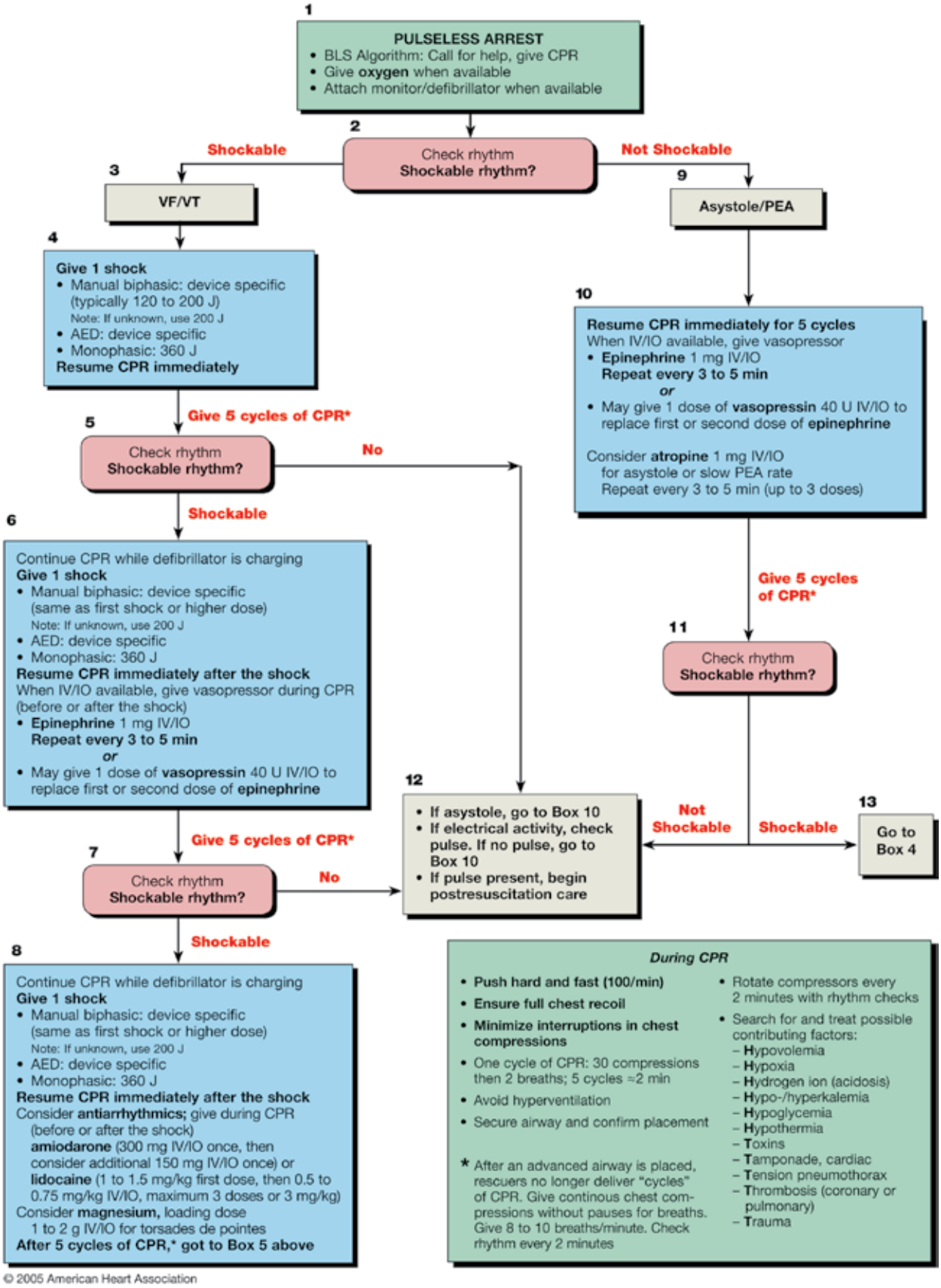
- Administer epinephrine (1:10,000) 0.01mg/kg (0.1ml/kg) IV, **OR** 0.1mg/kg (1:1000; 0.1ml/kg) via ETT; repeat every 3 – 5 minutes.
- Give 5 cycles of CPR, then check rhythm.
  - If asystole or PEA, continue epinephrine and 5 cycles of CPR until:
    - Pulse obtained,
    - Shockable rhythm obtained, **OR**
    - Decision made to discontinue further efforts.
    - If rhythm is shockable, go to V-Fib/Pulseless V-Tach.

FOR POST-RESUSCITATION HYPOTENSION

- IV normal saline 20ml/kg, **AND/OR**
- Consider (an infusion pump is required for the use of these pressor agents):
  - Dopamine infusion 5 – 20 microgram/kg/min., **OR**
  - Norepinephrine infusion 0.1 – 2 microgram/kg/min titrated to effect, **OR**
  - Epinephrine infusion 0.1 – 1 microgram/kg/min titrated to effect.

AHA Circulation 2005; 112; IV-167-IV-175, IV-178-IV-187 • AAP Pediatrics Volume 120, Number 5, November 2007: page 1160

CARDIAC ARREST ALGORITHM 3.4



DROWNING/SUBMERSION INJURIES—ADULT & PEDIATRIC 4.0

BASIC/INTERMEDIATE STANDING ORDERS

B/I

- Routine Patient Care.
- Assume c-spine injury and stabilize c-spine.
- Obtain specific history: time, temperature, associated trauma, etc.
- Begin resuscitation efforts while removing the patient from the water.
- Consider hypothermia.
- Remove wet clothes and warm the patient.
- Conscious patients with submersion injuries should be transported to the hospital.
- If patient submerged for:
  - Less than 1 hour—initiate full resuscitation.
  - 1 – 2 hours—initiate resuscitation; consider online Medical Control for termination of efforts.
  - Greater than 2 hours—Consider termination of efforts.

PARAMEDIC STANDING ORDERS

P

- Consider CPAP to supplement the patient's own respiratory effort.

EYE & DENTAL INJURIES—ADULT & PEDIATRIC 4.1

EYE—BASIC/INTERMEDIATE STANDING ORDERS

B/I

- Routine Patient Care.
- Obtain visual history (use of corrective lenses, surgeries, use of protective equipment).
- Obtain visual acuity, if possible.
- Chemical irritants: flush with copious amounts of water, or 0.9% NaCl (normal saline).
- Thermal burns to eyelids: patch both eyes with cool saline compress.
- Impaled object: immobilize object and patch both eyes.
- Puncture wound: place protective device over both eyes (e.g., eye shield). Do not apply pressure.
- Foreign body: patch both eyes.
- In the event patient is unable to close eyelids, keep eye moist with sterile saline dressing.

EYE—PARAMEDIC STANDING ORDERS

P

- Proparacaine or tetracaine, 2 drops to affected eye; repeat every 5 minutes as needed. Consider use of Morgan lens for irrigation.
- Refer to the Pain Management Protocol 2.10.
- Refer to the Nausea Protocol 2.14.

DENTAL AVULSIONS—BASIC/INTERMEDIATE/PARAMEDIC STANDING ORDERS

B/I/P

- Routine Patient Care.
- Dental avulsions should be placed in an obviously labeled container with saline-soaked dressing or cell-culture medium.

BURNS (THERMAL)—ADULT 4.2

BASIC/INTERMEDIATE STANDING ORDERS

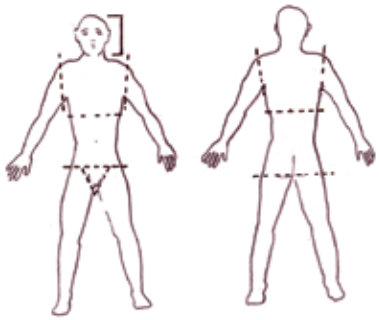
B/I

- Routine Patient Care.
- Stop the burning process.
- Remove jewelry.
- Decontaminate the patient as appropriate.
- Assess the patient's airway for evidence of smoke inhalation or burns: soot around mouth or nostrils, singed hair, carbonaceous sputum.
- Maintain patent airway.
- Determine extent of the burn using Rule of Nines. Do not include 1st degree burns in BSA%.
- Determine depth of injury.
- If a partial thickness burn (second degree) is less than 10% body surface area, apply room-temperature water or room-temperature wet towels for a maximum of 15 minutes to burned area. Prolonged cooling may result in hypothermia.
- Maintain body temperature.
- Cover burns with dry, sterile sheets, or dry, sterile dressings.
- Do not apply any ointments, creams, or gels to the burn area.
- Consider Air Medical Transport directly to a burn center.

PARAMEDIC STANDING ORDERS

P

- If the patient has respiratory difficulty, burns about the mouth or neck, or carbonaceous sputum production, consider Advanced Airway Management. See Airway Management Protocol 5.0.
- Refer to Pain Management Protocol 2.10.



THE RULE OF NINES—ADULT

Head and neck	*9%*
Left arm	*9%*
Right arm	*9%*
Chest	*9%*
Abdomen	*9%*
Upper back	*9%*
Lower back	*9%*
Front of left leg	*9%*
Front of right leg	*9%*
Back of left leg	*9%*
Back of right leg	*9%*
Genital region	*1%*
	100%

BURNS (THERMAL)—PEDIATRIC 4.2P

BASIC/INTERMEDIATE STANDING ORDERS

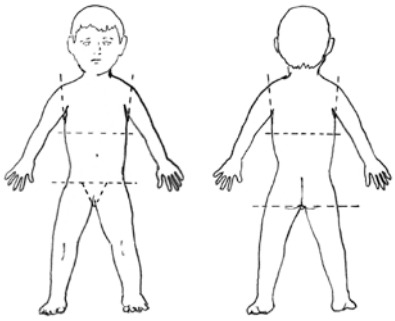
B/I

- Routine Patient Care.
- Stop the burning process.
- Remove jewelry.
- Decontaminate the patient as appropriate.
- Assess the patient's airway for evidence of smoke inhalation or burns: soot around mouth or nostrils, singed hair, carbonaceous sputum.
- Maintain patent airway.
- Determine extent of the burn using Rule of Nines. Do not include 1st degree burns in BSA%.
- Determine depth of injury.
- If the partial thickness (second degree) burn is less than 10% body surface area, apply room-temperature water or room-temperature wet towels for a maximum of 15 minutes to burned area. Prolonged cooling may result in hypothermia. Children are more susceptible to heat loss.
- Maintain body temperature.
- Cover burns with dry, sterile sheets, or dry, sterile dressings.
- Do not apply any ointments, creams, or gels to the burn area.
- Consider Air Medical Transport directly to the burn center.

PARAMEDIC STANDING ORDERS

P

- If the patient has respiratory difficulty, burns about the mouth or neck, or carbonaceous sputum production, consider Advanced Airway Management. See Airway Management Protocol 5.0.
- Consider IV 0.9% NaCl (normal saline) at rate to maintain hemodynamic status.
- Refer to Pain Management Protocol 2.10.



THE RULE OF NINES—PEDIATRIC

Head and neck	*18%*
Left arm	*9%*
Right arm	*9%*
Chest	*9%*
Abdomen	*9%*
Upper back	*9%*
Lower back	*9%*
left leg	*13.5%*
right leg	*13.5%*
Genital region	*1%*
	100%

NOTE: For each year over 1 year of age, subtract 1% from head, add equally to legs.

TRAUMATIC BRAIN INJURY—ADULT & PEDIATRIC 4.3

BASIC STANDING ORDERS

B

- Routine Patient Care.
- If breathing is inadequate, ventilate with 100% oxygen utilizing normal ventilation parameters, maintaining SpO_2 >90%.
- Do not hyperventilate unless clear signs of cerebral herniation are present.

SIGNS OF HERNIATION

- Extensor posturing, lack of motor response to noxious stimuli.
- Asymmetric, dilated, or non-reactive pupils.
- Progressive neurologic deterioration.
  - Decrease in the GCS greater than 2 points from a patient's best prior score, in a patient with an initial GCS <9

- If signs of cerebral herniation are present, ventilate at the following rates:
  - Adult: 20 bpm
  - Child: 25 bpm
  - Infant: 30 bpm
  - Goal is to maintain EtCO2 = 30 – 35mmHg
- Discontinue hyperventilation when signs/symptoms improve.
- Assess and document pupillary response and Glasgow Coma Scale every 5 minutes.

INTERMEDIATE STANDING ORDERS—ADULT

I

- If EtCO2 is available:
  - Ventilate to maintain an EtCO2 of 35 – 45mmHg.
  - If signs of herniation are present, ventilate to maintain an EtCO2 of 30 – 35mmHg.
- Check blood glucose; if hypoglycemic see Diabetic Emergencies Protocol 2.3.

PARAMEDIC STANDING ORDERS—ADULT

P

- Consider intubation if GCS <8.
  - If intubation required, consider administration of lidocaine 1.5mg/kg IV prior to intubation.
- Consider sedation for patients that are combative and may cause further harm to self and others.
  - Haloperidol 5mg IM, may repeat every 5 minutes to a maximum dose of 10mg, **OR**
  - Lorazepam 1mg IV or 2mg IM; may repeat once in 5 minutes, **OR**
  - Midazolam 2.5mg IV/IM/IN; may repeat once in 5 minutes, **OR**
  - Diazepam 2mg IV or 5mg IM; may repeat once in 5 minutes.

Traumatic Brain Injury continued on next page ⇨

TRAUMATIC BRAIN INJURY—ADULT & PEDIATRIC continued 4.3

⇦ Traumatic Brain Injury continued from previous page

PARAMEDIC STANDING ORDERS—PEDIATRIC

P

- Administer fluid bolus 20ml/kg, may repeat X 2, (maximum total 60ml/kg) to maintain systolic BP above:
  - 12 – 16 years: 90mmHg
  - 5 – 12 years: 80mmHg
  - 1 – 5 years: 75mmHg
  - Less than 1 years: 65mmHg
- If intubation required, consider administration of lidocaine 1.5mg/kg IV prior to intubation.
- Administer fluid in pediatric patient with normal systolic blood pressure and who has other signs of decreased perfusion, including tachycardia, loss of peripheral pulses, and delayed capillary filling time of greater than 2 seconds.

THORACIC INJURIES—ADULT & PEDIATRIC 4.4

BASIC/INTERMEDIATE STANDING ORDERS

B/I

- Routine Patient Care.
- Impaled Objects:
  - Secure in place with a bulky dressing.
- Open chest wound
  - Cover with an occlusive dressing, sealed on 3 sides, or use a commercial device; if condition deteriorates, remove the dressing momentarily, then reapply.
- Flail segment with paradoxical movement
  - Use positive pressure ventilation.
  - Do not splint the chest.
- Consider Air Medical Transport.

PARAMEDIC STANDING ORDERS

P

- In presence of tension pneumothorax*, perform needle decompression.
- Consider pain management (refer to Pain Management Protocol 2.10).

*Tension pneumothorax is defined as respiratory distress, in association with hypotension, with asymmetric or absent unilateral breath sounds, and with tracheal deviation above the sternal notch.

AIRWAY MANAGEMENT 5.0

ASSESSMENT

Each patient presents unique problems that cannot be fully outlined in any algorithm. As such, the provider must rely on thorough assessment techniques and consider each of the following:

1. **Airway Patency:** Assess for airway obstruction or risk of impending obstruction due to facial injuries, mass, foreign body, swelling, etc. Assess for presence/absence of gag reflex.
2. **Ventilatory Status:** Assess for adequate respiratory effort and impending fatigue/failure/apnea. Assess for accessory muscle use, tripod positioning, ability of patient to speak in full sentences. If available, assess end-tidal (ET) CO2.
3. **Oxygenation:** Any oxygen saturation less than 90% represents relatively severe hypoxia and should be considered an important warning sign. In addition to oxygen saturation, assess for cyanosis.
4. **Airway Anatomy:** Before attempting airway maneuvers or endotracheal intubation, especially with the use of medications, assess patient anatomy to predict probability of success and the need for backup device or technique. First, assess for difficulty of mask seal. Patients with facial hair, facial fractures, obesity, extremes of age, and pathologically stiff lungs (COPD, ARDS, etc.) may require special mask techniques or alternatives. Next, assess for difficulty of intubation. Patients with a short neck, inability to open mouth at least three finger widths (or other oral issues such as large tongue or teeth), less than three finger widths of thyromental distance (or receding jaw), reduced atlanto-occipital movement (such as suspected c-spine injury), obesity or evidence of obstruction (such as drooling or stridor) may be difficult to intubate. Assessment of difficulty to place surgical airways includes surgery or airway disruption (trauma), hematoma, obesity, radiation, and tumors.

DEVISE PLAN

1. Each patient will present unique challenges to airway management. Therefore before any intervention is attempted, the provider should contemplate a plan of action that addresses the needs of the patient, and anticipates complications and how to manage them.
2. Airway management is a continuum of interventions, not an "all or none" treatment. Some patients may only need airway positioning or a nasal or oral airway to achieve adequate ventilation and oxygenation. Others will require more invasive procedures. The provider should choose the **least invasive** method that can be employed to achieve adequate ventilation and oxygenation.
3. Continually reassess the efficacy of the plan and change the plan of action as patient needs dictate.
4. In children, a graded approach to airway management is recommended. Basic airway maneuvers and basic adjuncts followed by bag valve mask ventilation are usually effective.

BASIC SKILLS

Mastery of basic airway skills is paramount to the successful management of a patient with respiratory compromise.

- ► Ensure a patent airway with the use of:
  - ♦ Chin-lift/jaw-thrust
  - ♦ Nasal airway
  - ♦ Oral airway
  - ♦ Suction
  - ♦ Removal of foreign body

Airway Management continued on next page ⇨

AIRWAY MANAGEMENT continued 5.0

⇦Airway Management continued from previous page

- Provide ventilation with a bag valve mask. Proper use of the BVM includes appropriate mask selection and positioning to ensure a good seal. If possible, utilization of the BVM is best accomplished with two people: one person uses both hands to seal the mask and position the airway, while the other person provides ventilation. If the patient has some respiratory effort, synchronize ventilations with the patient's own inhalation effort.

ADVANCED AIRWAY SKILLS

Only after basic procedures are deemed inappropriate or have proven to be inadequate should more advanced methods be used. Procedures documenting the use of each device/technique listed below are found elsewhere in this manual.

- **ETT:** The endotracheal tube was once considered the optimal method or "Gold Standard" for airway management during cardiac arrest. It is now clear, however, that the incidence of complications is unacceptably high when intubation is performed by inexperienced providers or monitoring of tube placement is inadequate. The optimal method for managing an airway will, therefore, vary based on provider experience, Emergency Medical Services (EMS) or health care system characteristics, and the patient's condition.
- **Bougie:** All providers who attempt ETT placement should become intimately familiar with the use of a bougie. It is the device used most often by anesthesiologists and emergency physicians for helping guide placement when a difficult airway is encountered.
- **Alternate Devices:** Utilize an alternate device when the clinical indications for intubation still exist but conditions prevent intubation or previous attempts at ETT placement have failed. Each device has its own set of advantages/disadvantages and requires a unique insertion technique. Providers should have access to, and intimate knowledge of, at least one alternate device. Examples include:
  - King LT
  - Combitube/EasyTube
  - LMA
- **CPAP:** Continuous Positive Airway Pressure (CPAP) has been shown to be effective in eliminating the need for intubation and in decreasing mortality in properly-selected patients with acute respiratory distress.
- **Surgical Airways:** These procedures are indicated only when all other measures fail or you are presented with a situation in which intubation is contraindicated or in which you cannot intubate or otherwise ventilate a patient. Examples include:
  - Massive facial trauma
  - Upper airway obstruction due to edema, mass, or foreign body

DOCUMENTATION

All efforts toward airway management should be clearly documented and, at the minimum, should include the following:

- Pre/post intervention vital signs including oxygen saturation as well as capnography (if available)
- Procedures performed/attempted, including number of failed attempts and who performed each attempt/procedure
- Size of device(s) placed, depth of placement (if applicable)
- Placement confirmation: methods should include auscultation, condensation in the ETT, symmetrical chest wall rise, as well as at least one of the following—colorimetric EtCO2, capnography, esophageal tube detector.

GUM ELASTIC BOUGIE/FLEXGUIDE 5.1

PARAMEDIC STANDING ORDERS

P

- INDICATIONS
  - Same as orotracheal intubation, but, unable to fully visualize vocal cords.
- CONTRAINDICATIONS
  - Use of a 6.0 or smaller ETT
- PROCEDURE
  1. Lubricate Bougie with water-based lubricant.
  2. Using a laryngoscope (Macintosh or Miller blade) and standard ETT intubation techniques, attempt to visualize the vocal cords.
  3. If the vocal cords are visualized, pass the bougie through the cords while attempting to feel the signs of tracheal placement (see below). The bougie is advanced until the black line on the bougie reaches the lip line.
  4. If the vocal cords are **not** visualized, pass the bougie behind the epiglottis, guiding the tip of the bougie anteriorly towards the trachea and asses for signs of tracheal placement (see below).
  5. With the laryngoscope still in place, have an assistant load the ETT over the Bougie and slide it to the level of the lip-line.
  6. Advance the ETT over the Bougie, rotating the ETT about 1/4 turn counterclockwise so that the bevel is oriented vertically as the ETT passes through the vocal cords. This maneuver allows the bevel to gently spread the arytenoids with a minimum of force, thus avoiding injury. If resistance is felt, withdraw the ETT, rotating it in a slightly more counterclockwise direction, and advance the tube again. Advance the tube to a lip-line of 24cm in an adult male, and 22cm in an adult female.
  7. Holding the ETT firmly in place, remove the Bougie.
  8. Remove the laryngoscope.
  9. Inflate the cuff with 5 – 10ml of air.
  10. Assess for adequate placement by auscultation (equal breath sounds over the chest and lack of sounds over the epigastrium with bagging), condensation in the ETT, symmetrical chest wall rise, and at least one additional method: colorimetric end-tidal CO2 detector, capnography, or esophageal tube detector (Note: to be accurate, this device should be used prior to ventilation). This should be repeated often, especially after movement of the patient.
  11. Secure the ETT.
- SIGNS OF TRACHEAL PLACEMENT
  1. The Bougie is felt to stop or get "caught up" as the airway narrows and is unable to be advanced further. This is the most reliable sign of proper bougie placement. If the bougie enters the esophagus, it will continue to advance without resistance.
  2. It may be possible to feel the tactile sensation of "clicking" as the bougie tip is advanced downward over the rigid cartilaginous tracheal rings.
  3. The bougie can be felt to rotate as it enters a mainstem bronchus. Usually it is a clockwise rotation as the bougie enters the right mainstem bronchus, but it will rotate counterclockwise if the bougie enters the left mainstem bronchus.
  4. If the patient is not paralyzed, he/she may cough.

OROTRACHEAL INTUBATION 5.2

PARAMEDIC STANDING ORDERS

- INDICATIONS
  - Apnea/respiratory failure
  - Impending respiratory failure
  - Impaired gag reflex
- CONTRAINDICATIONS
  - Epiglotitis
  - Facial or neck injuries that prohibit visualization of airway anatomy—relative
- PROCEDURE
  1. Prepare all equipment and have suction ready.
  2. Pre-oxygenate the patient, if time permits.
  3. Open the patient's airway. While holding the laryngoscope in the left hand, insert the blade into the right side of the patient's mouth, sweeping the tongue to the left.
  4. Use the blade to lift the tongue and the epiglottis, either directly with the straight (Miller) blade, or indirectly with the curved (Macintosh) blade.
  5. Once the glottic opening is visualized, insert the tube through the vocal cords and continue to visualize while passing the cuff through the cords.
  6. Remove the laryngoscope and then the stylet from the ETT.
  7. Inflate the cuff with 5 – 10ml of air.
  8. Assess for adequate placement by auscultation (equal breath sounds over the chest and lack of sounds over the epigastrium with bagging), condensation in the ETT, symmetrical chest wall rise, and at least one additional method: colorimetric end-tidal CO2 detector, capnography, or esophageal tube detector (Note: to be accurate, this device should be used prior to ventilation).
  9. Secure the tube.
  10. Document the ETT size, time, results, and placement depth (in cm at the level of the patient's teeth or gums) on the PCR. Also, include in documentation the procedures and devices used for confirmation of tube placement (e.g., bilateral, equal breath sounds, and absence of epigastric sounds, end-tidal CO2, etc.).
  11. Reassess tube placement frequently, especially after movement of the patient.

NOTE: If initial intubation attempt is unsuccessful or ETT placement cannot be verified, monitor oxygen saturations and end-tidal CO2 and ventilate the patient with 100% oxygen via a BVM until ready to attempt re-intubation. If continued intubation attempts are unsuccessful or BVM ventilation is not adequate, consider placing alternative airway.

NASOTRACHEAL INTUBATION 5.3

PARAMEDIC STANDING ORDERS

- INDICATIONS
  - Impending respiratory failure with intact gag reflex, or jaw is clenched and unable to be opened.
- CONTRAINDICATIONS
  - Apnea
  - Nasal obstruction
  - Suspected basilar skull fracture
  - Patient fits on a pediatric length-based resuscitation tape (Broselow Tape)
- PROCEDURE
  1. Pre-medicate nasal mucosa with 2% lidocaine jelly and nasal decongestant spray, if available.
  2. Select the largest and least obstructed nostril and insert a lubricated nasal airway to help dilate the nasal passage.
  3. Pre-oxygenate the patient.
  4. Lubricate the ETT with water-based lubricant.
  5. Remove the nasal airway and gently insert the tube, keeping the bevel toward the septum (a gentle rotation movement may be necessary at the turbinates).
  6. Continue to advance the ETT while listening for maximum air movement.
  7. At the point of maximum air movement, indicating proximity to the level of the glottis, gently and evenly advance the tube through the glottic opening on inspiration.
  8. If resistance is felt, the tube may have become lodged into the pyriform sinus and tenting of the skin may occur on either side of the thyroid cartilage. If this happens, slightly withdraw the ETT and rotate it toward the midline and attempt to advance tube with the next inspiration.
  9. Upon entering the trachea, the tube may cause the patient to cough, buck, strain, or gag. This is normal. Do not remove the ETT. Be prepared to control the cervical spine and the patient, and be alert for vomiting.
  10. Placement depth should be from the nares to the tip of the tube; approximately 28cm in males and 26cm in females.
  11. Inflate cuff with 5 – 10ml of air.
  12. Assess for adequate placement by auscultation (equal breath sounds over the chest and lack of sounds over the epigastrium with bagging), condensation in the ETT, symmetrical chest wall rise, and at least one additional method: colorimetric end-tidal CO2 detector, capnography, or esophageal tube detector (Note: to be accurate, this device should be used prior to ventilation).
  13. Secure the ETT.
  14. Document the ETT size, time, results, and placement depth (in cm at the level of the patient's nare) on the PCR. Also, include in documentation the procedures and devices used for confirmation of tube placement (e.g., bilateral, equal breath sounds, and absence of epigastric sounds, end-tidal CO2, etc.).

P

RAPID SEQUENCE INTUBATION (RSI)—ADULT ONLY 5.4

PARAMEDIC STANDING ORDERS

PREREQUISITES REQUIRED

This procedure is only to be used by paramedics who are trained and credentialed to perform RSI by the NH Bureau of EMS. Either 2 RSI paramedics or 1 RSI paramedic and 1 RSI assistant must be present.

- INDICATION
  - Immediate, severe airway compromise in the context of trauma, drug overdose, status epilepticus, etc., where respiratory arrest is imminent.
- CONTRAINDICATION
  - Extensive recent burns or crush injuries greater than 24 hours old.
  - History of malignant hyperthermia
- PROCEDURE: THE SEVEN "Ps"

1. PREPARATION: The time frame is limited, but the operator must have adequate Ambu Mask/oxygen sources, two laryngoscope handles, an assortment of blades, one working IV or IO, rescue airway devices, oxymetry and capnography monitoring, bulb-style tube checker.
2. PREOXYGENATION: When possible, use a non-rebreather mask for at least 3 minutes to effect nitrogen washout and establish an adequate oxygen reserve. In emergent cases, administer 8 vital capacity mask breaths with 100% oxygen.
3. PREMEDICATION
   - Consider lidocaine (1.5mg/kg) given 2 minutes before intubation to control Intracranial Pressure (ICP) in patients with possible head injury or CNS pathology (hypertensive crisis or hemorrhage).
   - Consider atropine for bradycardia at 0.5mg IV.
4. PARALYZE
   - Etomidate (0.3mg/kg IV; maximum 40mg)
   - Apply cricoid pressure and maintain until ETT is placed, confirmed, and secured.
   - Succinylcholine (1.5mg/kg IV) immediately after etomidate (maximum 150mg)
5. PASS THE TUBE
   - Observe for fasciculations approximately 90 seconds after succinylcholine to indicate imminent paralysis.
   - After paralysis is achieved, follow procedure outlined in Protocol 5.2 to place the ETT.
6. PROOF OF PLACEMENT—Assess for adequate placement by:
   - Auscultation (equal breath sounds over the chest and lack of sounds over the epigastrium with ventilations)
   - Condensation in the ETT
   - Symmetrical chest wall rise, **AND**
   - At least one additional method: colorimetric end-tidal CO_2 detector, capnography, or esophageal tube detector (Note: to be accurate, this device should be used prior to ventilation).

Reassess tube placement often, especially after movement of the patient.

Rapid Sequence Intubation continued on next page ⇨

RAPID SEQUENCE INTUBATION (RSI)—ADULT ONLY continued *5.4*

⇦Rapid Sequence Intubation continued from previous page

P

7. POST INTUBATION CARE
   - ◊ Sedation
     - ✦ Midazolam (0.05 – 0.10mg/kg IV), every 5 – 10 minutes as needed, **OR**
     - ✦ Lorazepam 1 – 2mg IV every 15 minutes as needed for sedation (max. 10mg)
   - ◊ Paralysis (via online Medical Control only)
     - ✦ Vecuronium 0.1mg/kg IV, **OR**
     - ✦ Rocuronium 1mg/kg IV

Continuous capnography required for post intubation.

BLIND INSERTION AIRWAY 5.5

BLIND INSERTION

This protocol is intended for FDA-approved, commercial, blind airway devices. Examples are Combitube, KING-LT-D, EasyTube, or LMA.

Whereas each device will have its own idiosyncrasies, each provider must be trained, knowledgeable, and experienced with the manufacturer's recommendations for the particular device being used.

- INDICATIONS
  - When immediate airway control is desired in the absence of endotracheal intubation
  - Airway control in the absence of other effective methods (e.g., failed airway)
  - Situations involving a difficult mask (BVM) fit
- CONTRAINDICATIONS
  - The patient has an intact gag reflex or is not profoundly unconscious and who may resist the insertion.
  - Severe maxillofacial or oropharyngeal trauma.
  - Any allergy or sensitivity to latex (the Combitube's pharyngeal balloon contains latex).
  - Inappropriate sizing (follow manufacturer's recommendations).
  - The following contraindications apply to devices that are inserted into the esophagus.
    - The patient has known esophageal disease.
    - The patient has ingested a caustic substance.
    - There are burns involving the airway.
  - Note: Not all contraindications are absolute.
- PROCEDURE
  - Each device is unique; follow specific manufacturer's recommendations for the proper procedure for insertion and use.
  - Assess for adequate placement by auscultation (equal breath sounds over the chest and lack of sounds over the epigastrium with bagging)
  - In addition to auscultation, confirm tube placement by using either a colorimetric end-tidal CO2 detector or capnography.
  - Secure the device.
  - Reassess tube placement frequently, especially after movement of the patient.

CRICOTHYROTOMY *5.6*

Age-appropriate commercial device.

PROVIDER LEVEL APPROVED

Paramedic

INDICATIONS

- Unable to perform endotracheal intubation or place alternate device due to airway obstruction.

CONTRAINDICATIONS

- Child whose height does not exceed length of length based resuscitation tape (Broselow Tape)

PROCEDURE

Follow specific manufacturer's recommendations for the proper procedure for insertion and use.

- Assess for adequate placement by auscultation (equal breath sounds over the chest and lack of sounds over the epigastrium with bagging)
- In addition to auscultation, confirm tube placement by using either a colorimetric end-tidal CO2 detector or capnography.
- Secure the device.
- Reassess placement frequently, especially after movement of the patient.

ADVANCED SUCTIONING 5.7

INDICATIONS

- Obstruction of the airway (secondary to secretions, blood, and/or any other substance) in a patient currently being assisted by an airway adjunct such as an endotracheal tube, Combitube, tracheostomy tube, or a cricothyrotomy tube.

PROCEDURE

1. Ensure the suction device is operable.
2. Pre-oxygenate the patient.
3. While maintaining aseptic technique, attach the suction catheter to the suction unit.
4. If applicable, remove ventilation device from the airway.
5. Insert the sterile end of the suction catheter into the tube without suction. Insert until resistance is met; pull back approximately 1 – 2cm.
6. Once the desired depth is met, apply suction by occluding the port of the suction catheter and slowly remove the catheter from the tube using a twisting motion.
7. Suctioning duration should not exceed 10 seconds.
8. 2 – 3ml saline flush may be used to help loosen secretions.
9. Re-attach the ventilation device and oxygenate the patient.

TRACHEOSTOMY CARE—ADULT & PEDIATRIC 5.8

BASIC/INTERMEDIATE STANDING ORDERS

B/I

- Routine Patient Care.
- Consult with patient's caregivers for assistance.
- Assess tracheostomy tube: Look for possible causes of distress which may be easily correctable, such as a detached oxygen source.
- Assist ventilations using bag valve mask device with high-flow oxygen.
- If on a ventilator, remove the patient from the ventilator prior to using bag valve mask device as there may be a problem with the ventilator or oxygen source.
- Suction if unable to ventilate via tracheostomy or if respiratory distress continues. Use no more than 100mm/Hg suction pressure. If the tracheostomy tube has a cannula, remove it prior to suctioning. Determine proper suction catheter length by measuring the obturator. If the obturator is unavailable, insert the suction catheter approximately 2 – 3 inches into the tracheostomy tube. **Do not use force!** 2 – 3ml saline flush may be used to help loosen secretions.
- If patient remains in severe distress, continue ventilation attempts using bag valve mask with high-flow oxygen via the tracheostomy. Refer to Protocol 2.1, if indicated.
- If patient's breathing is adequate but exhibits continued signs of respiratory distress, administer high-flow oxygen via non-rebreather mask or blow-by, as tolerated over the tracheostomy.

PARAMEDIC STANDING ORDERS

P

- If patient continues in severe respiratory distress:
  - Remove tube and attempt bag valve mask ventilation.
- If another tube is available from caregivers, insert into stoma and resume ventilation (a standard endotracheal tube may be used or the used tracheostomy tube, after being cleaned).
  - If unable to replace tube with another tracheostomy tube or endotracheal tube, assist ventilations with bag valve mask and high-flow oxygen.

INTRAOSSEOUS ACCESS 5.9

PROVIDER LEVEL APPROVED

- Paramedic
- Intermediate, adult only, commercial intraosseous introduction device (e.g., EZ-IO)

DEFINITION

Intraosseous insertion establishes access in a patient where venous access cannot be rapidly obtained. The bone marrow space serves as a "noncollapsable vein" and provides access to the general circulation for the administration of fluids and resuscitation drugs. This protocol applies to all appropriate IO insertion sites.

INDICATION

- **Intermediate:** Adult patients in cardiac arrest
- **Paramedic:** Drug or fluid resuscitation of a patient in need of immediate life-saving intervention and unable to obtain peripheral IV access

CONTRAINDICATIONS

- Placement in or distal to a fractured bone
- Placement at a burn or infected site

COMPLICATIONS

- Infusion rate may not be adequate for resuscitation of ongoing hemorrhage or severe shock, extravasation of fluid, fat embolism, and osteomyelitis (rare).

EQUIPMENT & PROCEDURE

- Equipment
  - 15 – 19 gauge bone marrow needle or FDA-approved commercial intraosseous infusion device
  - Povidone-iodine solution and gloves
  - Primed IV tubing, stopcock, IV solution
  - 10ml syringe with 0.9% NaCl (normal saline)
  - Pressure pump/bag or 60ml syringe for volume infusion or slow push
  - 1 vial 1% or 2% lidocaine
  - 5ml syringe
- Procedure
  - When using an FDA-approved commercial IO device, follow manufacturer's instructions.
  - Place the patient in a supine position.
  - Identify the bony landmarks. The site of choice for pediatric patients is the proximal tibia, 1 – 2cm medially and 1 – 2cm distal to the tibial tuberosity on the anteromedial surface.
  - Prep the site with povidone-iodine solution.
  - When accessing bone marrow, direct and insert the needle—with the stylet in place—perpendicular to the bone or angled away from the joint, avoiding the epiphyseal plate. Insert with pressure and a boring or screwing motion until penetration into the marrow, which is marked by a sudden lack of resistance; then remove the stylet.

Intraosseous Access continued on next page ⇨

INTRAOSSEOUS ACCESS continued *5.9*

⇦*Intraosseous Access continued from previous page*

- Needle is appropriately placed if the following are present:
  - ◊ Aspiration with syringe yields blood with marrow particulate matter.
  - ◊ Infusion of saline does not result in infiltration at the site.
  - ◊ Needle stands without support.
- Attach IV tubing, with or without stopcock.
- If the patient experiences pain during infusion, inject lidocaine into the marrow cavity.
  - ◊ Adult: 2 – 5ml (20 – 50mg) 1% or 2% lidocaine
  - ◊ Pediatric: 0.5mg/kg 1% or 2% lidocaine
- Flow rates to gravity may be unacceptably slow. Consider placing IV solution in a pressure bag inflated to 300 torr or "pushing" the fluid bolus with a syringe and three-way stopcock.
- Stabilize needle on both sides with sterile gauze and secure with tape (avoid tension on needle).

UMBILICAL VEIN CANNULATION *5.10*

PROVIDER LEVEL APPROVED

- Paramedic

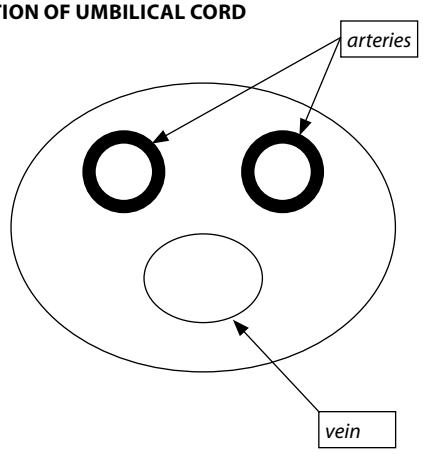
INDICATIONS

- Intravenous access needed for resuscitation and stabilization of a newborn.

PROCEDURE

1. Prepare base of umbilical cord and adjacent skin with providone-iodine solution.
2. Place umbilical tape, or suitable equivalent, around base of umbilical cord with a loose knot.
3. Cut umbilical cord proximal to previous clamp site, leaving approximately 2cm of cord. Umbilical tape may be tightened to control bleeding.
4. Identify the umbilical vein. Typically it has a thinner wall and larger lumen than the two umbilical arteries.
5. Insert umbilical vein catheter 3.5 Fr (preterm) or 5.0 Fr (full term) into the umbilical vein and advance 1 – 2cm beyond the point at which blood returns freely. Advancing the catheter too far can result in placement within the liver, which may lead to liver necrosis. If a commercial catheter is not available, an 18 or 16 gauge peripheral angiocath may be used as an alternative.
6. Attach syringe (with three-way stopcock preferred) with sterile saline and aspirate. Free flow of blood should be noted.
7. Gently tighten umbilical tape to help secure catheter in place and prevent bleeding.
8. Secure umbilical catheter with tape.

CROSS-SECTION OF UMBILICAL CORD



VASCULAR ACCESS VIA CENTRAL CATHETER—ADULT & PEDIATRIC 5.11

PROVIDER LEVEL APPROVED

- Paramedic who has taken the NH Bureau of EMS and Medical Control Board approved training module

INDICATIONS

- In the presence of a life threatening condition, with clear indications for immediate use of medications or fluid bolus

CONTRAINDICATIONS

- Prophylactic IV access
- Suspected infection at skin site

PROCEDURE

Determine the type of catheter present: PICC, Broviac, Hickman, Groshong, Mediport, etc.

- Procedure for Peripherally Inserted Central Catheter (Cook, Neo-PICC) and Tunneled Catheter (Broviac, Hickman, Groshong)
  1. Prepare equipment: 10ml syringe (empty), 10ml syringe (0.9% NaCl (normal saline)) and sterile gloves (if available).
  2. If more than one lumen is available (PICCs and Boviacs can have one, two, or three lumens), select the largest lumen available.
  3. Remove cap on the end of the catheter.
  4. Prep the end of the lumen with an alcohol swab.
  5. Using a 10ml syringe, (after unclamping the lumen) aspirate 3 – 5ml of blood with the syringe and discard. If unable to aspirate blood, re-clamp the lumen and attempt to use another lumen (if present). If clots are present, contact Medical Control before proceeding. Re-clamp the lumen.
  6. Flush the lumen with 3 – 5ml 0.9% NaCl (normal saline) using a 10ml syringe. If catheter does not flush easily (note that a PICC line will generally flush more slowly and with greater resistance than a typical intravenous catheter), re-clamp the selected lumen and attempt to use another lumen (if present).
  7. Attach IV administration set and observe for free flow of IV fluid.
  8. If shock is not present, allow fluid to run at rate of 10ml/hour to prevent the central line from clotting.

Note: The maximum flow rates for a PICC line is 125ml/hour for less than 2.0 Fr sized catheter and 250ml/hour for catheters over 2.0 Fr sized catheters.

Note: Avoid taking a blood pressure reading in the same arm as the PICC.

Vascular Access Via Central Catheter continued on next page ⇨

VASCULAR ACCESS VIA CENTRAL CATHETER —ADULT & PEDIATRIC continued *5.11*

⇦*Vascular Access Via Central Catheter continued from previous page*

► Procedure for implanted catheter (Port-a-Cath, P.A.S. Port, Medi-Port)

1. Prepare all necessary equipment: 10ml syringe (empty), 10ml syringe 0.9% NaCl (normal saline), and sterile gloves (if available).
2. Identify the access site; usually located in the chest.
3. Clean the access site with povodine-iodine solution.
4. Secure the access point firmly between two fingers and attach a 10ml syringe to Haberman/Huber Needle.
5. Aspirate 3 – 5ml of blood with the syringe. If unable to aspirate blood, re-clamp the catheter and do not attempt further use. If clots are present, contact Medical Control before proceeding.
6. Flush the catheter with 3 – 5ml 0.9% NaCl (normal saline) using a 10ml syringe. If catheter does not flush easily, do not attempt further use.
7. Attach IV administration set and observe for free flow of IV fluid.
8. If shock is not present, allow fluid to run at rate of 10ml/hour to prevent the central line from clotting.

IMMUNIZATION 5.12

PREREQUISITES REQUIRED

This procedure is only to be used by paramedics who are trained and credentialed to perform immunization by the NH Bureau of EMS and the NH Medical Control Board.

INDICATIONS: Prehospital providers may be called upon to provide certain immunizations as necessary to assist state health officials in the event of a public health crisis, or under the written order of a physician.

NON-PATIENT SPECIFIC ORDERS

A non-patient specific order authorizes paramedics to administer specified immunization agents or anaphylaxis treatment agents for a specified period of time to an entire group of persons such as school children, employees, patients of a nursing home, etc.

- Some examples of non-patient specific orders are:
  - Administer influenza vaccine 0.5ml IM to all incoming freshmen students at X College who are eligible per protocol.
  - Administer influenza vaccine 0.5ml IM to all employees of X organization who request it and who are eligible by protocol.
  - Administer influenza vaccine 0.5ml IM to all X town residents who request it and who are eligible by protocol.
  - Administer Hepatitis B series to all employees of X organization eligible per protocol.

IMMUNIZING AGENTS

Many of the immunizations listed in the Centers for Disease Control and Prevention (CDC) guidelines fall under this protocol. The list of authorized immunizing agents differs for adults and children. Adults are persons who are 18 years of age or older; children are persons under 18 years of age.

- Immunizing agents for adults
  - Diphtheria
  - Hepatitis A
  - Hepatitis B
  - Inactivated Polio
  - Influenza
  - Measles
  - Meningococcus
  - Mumps
  - Pneumococcus
  - Rubella
  - Smallpox vaccine
  - Tetanus
  - Varicella

Immunization continued on next page ⇨

IMMUNIZATION continued 5.12

⇦Immunization continued from previous page

- Immunizing agents for children:
  - Acellular Pertussis
  - Diphtheria
  - Haemophilus Influenza Type b (HIB)
  - Hepatitis A
  - Hepatitis B
  - Inactivated Polio
  - Influenza
  - Measles
  - Meningococcus
  - Mumps
  - Pneumococcal Conjugate
  - Rubella
  - Tetanus
  - Varicella

Note: The Medical Control Board may add immunizing agents in accordance with the recommendations of the Centers for Disease Control and Prevention and the New Hampshire Department of Health and Human Services.

ADMINISTRATION OF IMMUNIZATIONS

The non-patient specific standing order and protocol must be authorized by a physician.

EPIDEMICS

Any paramedic may administer any immunizing agent that is authorized by a non-patient specific standing order and protocol as part of an immunization program when the immunization program is instituted as a result of an epidemic declared by public health officials.

PROTOCOL REQUIREMENTS

- Ensure that the potential immunization recipient is assessed for contraindications to immunizations.
- Inform each potential immunization recipient of the potential side effects and adverse reactions, orally and in writing, prior to immunization, and inform each potential immunization recipient, in writing, of the appropriate course of action in the event of an untoward or adverse event. Vaccine Information Statements (VIS), developed by the Centers for Disease Control and Prevention (CDC), United States Department of Health and Human Services are recommended for this use.
- Obtain consent for the immunization from the potential recipient, or from a person legally responsible in the case of a minor or otherwise incapable person, before the immunization is administered.
- In cases of minors and persons incapable of personally consenting to immunization, consent may be gained by informing the legally responsible person of the potential side effects and adverse reactions in writing and obtaining a written consent prior to administering the immunization.
- Provide to each legally responsible immunization recipient, a signed certificate of immunization noting the recipient's name, date of immunization, address, immunization agent, administering paramedic, immunizing agent, manufacturer and lot number, and recommendations for future immunizations.

Immunization continued on next page ⇨

IMMUNIZATION continued *5.12*

⇦*Immunization continued from previous page*

- Have available on-site, agents to treat anaphylaxis including, but not limited to, epinephrine and necessary needles and syringes.
- Report all adverse immunization outcomes to the Vaccine Adverse Event Reporting System (VAERS) using the appropriate form from the Centers for Disease Control and Prevention, United States Department of Health and Human Services.
- Ensure that the record of all persons immunized includes: the non-patient specific standing order and protocol utilized, recipient's name, date, address of immunization site, immunizing agent, manufacturer and lot number of administered vaccine(s) and recommendations for future immunizations.
- For the administration of the influenza vaccine to adults only, it is acceptable to maintain a log of the names, addresses, and phone numbers of all adult patients immunized with the influenza vaccine under non-patient specific orders, in a dated file.
- Ensure that a record is kept of all potential recipients, noting those who refused to be immunized.

BLOODBORNE/AIRBORNE PATHOGENS 6.0

BLOODBORNE PATHOGENS

Emergency Medical Services personnel should assume that all bodily fluids and tissues are potentially infectious with bloodborne pathogens, and must protect themselves accordingly by use of appropriate Body Substance Isolation (BSI) and approved procedures.

Transmission of bloodborne pathogens has been shown to occur when infected blood or Other Potentially Infectious Materials ("OPIM") enter another individual's body through skin, mucous membrane, or parenteral contact.

BODY SUBSTANCE ISOLATION (BSI) PROCEDURES

- BSI procedures include using protective barriers (such as gloves, masks, goggles, etc.), thorough hand washing, and proper use and disposal of needles and other sharp instruments.
- Centers for Disease Control guidelines for hand hygiene include:
  - When hands are visibly dirty, contaminated, or soiled, wash with non-antimicrobial or antimicrobial soap and water. If hands are not visibly soiled, use an alcohol-based handrub for routinely decontaminating hands.
- Personnel with any open wounds should refrain from all direct patient care and from handling patient-care equipment, unless they can ensure complete isolation of these lesions and protection against seepage.
- In addition, all personnel who are potentially at risk of coming into contact with blood or OPIM are encouraged to obtain appropriate vaccines to decrease the likelihood of transmission.

PROCEDURES AND CONSIDERATIONS

Personnel who have had a bloodborne pathogen exposure should immediately flush the exposed area or wash with an approved solution. The exposed area should then be covered with a sterile dressing. As soon as possible, or after transfer of patient care, the EMT should thoroughly cleanse the exposed site and obtain a medical evaluation by the medical advisor as dictated by their department's Exposure Control Plan and/or Workers Compensation Policy.

AIRBORNE PATHOGENS

Emergency Medical Services personnel should assume that all patients who present with respiratory distress, coughing, a fever, or a rash are potentially infectious with airborne pathogens, and must protect themselves accordingly by use of appropriate Airborne Personal Protective Equipment (APPE), Body Substance Isolation (BSI), and approved procedures.

AIRBORNE PERSONAL PROTECTIVE EQUIPMENT (APPE)

- The preferred APPE for EMS personnel is an N95 mask, to be worn whenever a patient is suspected of having any communicable respiratory disease.
- The N95 mask should be of the proper size for each individual provider, having been previously determined through a fit-test procedure.
- A surgical mask should also be placed on suspect patients, if tolerated. If oxygen therapy is indicated, a surgical mask should be placed over an oxygen mask to block pathogen release. This will require close monitoring of the patient's respiratory status and effort.

Bloodborne/Airborne Pathogens continued on next page ⇨

BLOODBORNE/AIRBORNE PATHOGENS continued 6.0

⇦Bloodborne/Airborne Pathogens from previous page

PROCEDURES AND CONSIDERATIONS

- Early notification to the receiving hospital should be made such that the receiving hospital may enact its respective airborne pathogen procedures.
- Limit the number of personnel in contact with suspected patients to reduce the potential of exposure to others.
- Limit procedures that may result in the spread of the suspected pathogen, e.g., nebulizer treatments.
- Utilize additional HEPA filtration on equipment, e.g., BVM or suction.
- Exchange of fresh air into the patient compartment is recommended during transport of a patient with a suspected airborne pathogen.
- EMTs who believe they have been exposed to an airborne pathogen may proceed as above in getting timely medical care. The Patient Care Report enables hospital infection control staff to contact at-risk EMS personnel, should that patient be found to have a potential airborne pathogen such as tuberculosis, Neisseria meningitis, SARS, etc.

DECONTAMINATION AND FOLLOW-UP

- In addition to accepted procedures for cleaning and disinfecting surfaces and equipment with approved solutions, and for the proper disposal of contaminated items, the use of fresh air ventilation should be incorporated (open all doors and windows to allow fresh air after arrival at the hospital).
- All personnel in contact with the patient should wash their hands thoroughly with warm water and an approved hand-cleansing solution. When soap and water are not immediately available, a hand sanitizer containing 60% isopropyl alcohol is recommended as an interim step until thorough hand washing is possible.
- Ambulances equipped with airborne pathogen filtration systems should be cleaned and maintained in accordance with the manufacturer's guidelines.
- As soon as possible following all suspected bloodborne or airborne exposures, the EMT should complete all appropriate documentation as identified in their department's specific policies, including New Hampshire Emergency Response/Public Safety Worker Incident Report Form.

CRIME SCENE/PRESERVATION OF EVIDENCE 6.1

If you believe a crime has been committed, immediately contact law enforcement.

Protect yourself and other EMS personnel. You will not be held liable for failing to act if a scene is not safe to enter. Once a crime scene is deemed safe by law enforcement, initiate patient contact and medical care.

- Do not touch or move anything at a crime scene unless it is necessary to do so for patient care.
- Have all EMS providers use the same path of entry and exit.
- Do not walk through fluids on the floor.
- Observe and document original location of items moved by crew.
- When removing patient clothing, leave intact as much as possible.
- Do not cut through clothing holes made by gunshot or stabbing.
- If you remove any items from the scene, such as impaled objects or medication bottles, document your actions and advise investigating officers.
- Do not sacrifice patient care to preserve evidence.
- Consider requesting a law enforcement officer to accompany the patient in the ambulance to the hospital.
- Document statements made by the patient or bystanders on the EMS patient care report.
- Inform staff at the receiving hospital that this is a "crime scene" patient.
- If the patient is obviously dead, contact Medical Control for directions to withhold resuscitative measures, and do not touch body.
- For traffic accidents, preserve the scene by parking away from skid marks and debris.

ABUSE AND NEGLECT—CHILD, ELDER, INCAPACITATED ADULTS, OR OTHER VULNERABLE INDIVIDUALS 6.2

PURPOSE

To provide the process for the identification, assessment, management and reporting of patients who are suspected of having been abused, neglected, and/or exploited. This includes physical, sexual, or emotional abuse, neglectful acts or omissions by self or others, and/or the illegal use of an incapacitated adult's person or property for profit or advantage.

PROCEDURE FOR ASSESSMENT

- Treat and document assessment findings using the appropriate medical treatment protocol without causing undue emotional trauma for non-emergent injuries.
- Whenever possible, secure and bag (in paper) any clothing or items that might be needed as evidence.
- Interview with patient should be conducted calmly, respectfully, and privately, while closely observing for:
  - Mental status
  - Inappropriate fears or atypical reaction to situation
  - Avoidance behaviors
  - Inappropriate interaction with caregiver or parent
- Do not interrogate, accuse, or otherwise address specifics of abuse or neglect to patient or caregiver.
- Obtain pertinent history relating to presenting injuries or illness.
- Carefully, and specifically, document verbatim any patient statements of instances of rough handling, sexual abuse, alcohol/drug abuse, verbal or emotional abuse, isolation or confinement, misuse of property, threats, and gross neglect such as restriction of fluids, food, medications, or hygienic care.
- Note problems with living conditions and environment.
- Note any of the following potential indicators of an abusive or neglectful circumstance or environment
  - Unsolicited history provided by the patient
  - Delay in seeking care for injury or illness
  - Injury inconsistent with history provided, developmental abilities, or mobility potential
  - Conflicting reports of injury from patient and caregiver
  - Patient unable, or unwilling, to describe mechanism of injury
  - Injuries in unusual locations, e.g., genital area
  - Multiple fractures, bruises or other injuries in various stages of healing
  - Scald burns with demarcated immersion lines without splash marks
  - Scald burns involving anterior or posterior half of extremity
  - Scald burns involving buttocks or genitalia
  - Cigarette burns, rope burns, or other identifiable patterned markings
  - Patient confined to restricted space or position
  - Pregnancy or presence of sexually transmitted disease in a child or vulnerable adult

Abuse and Neglect continued on next page ⇨

ABUSE AND NEGLECT—CHILD, ELDER, INCAPACITATED ADULTS, OR OTHER VULNERABLE INDIVIDUALS continued 6.2

⇦ *Abuse and Neglect continued from previous page*

SPECIAL CONSIDERATIONS

- To assure the safety of EMS personnel in suspect situations, law enforcement may be contacted at the discretion of the EMS provider.
- According to laws in the State of NH, any and all cases of suspected abuse, neglect, or exploitation must be reported. This applies even in cases when the patient is not transported. If a parent/guardian refuses treatment of a minor child or an incapacitated adult whom you feel needs medical attention, contact law enforcement immediately.
- Careful and specific documentation is vital because the "story" often changes as the investigation proceeds.

REPORTING PROCEDURES

CHILD ABUSE

Responsibility for reporting child abuse and protection from liability for such reporting is established by the NH Child Protection Act, Chapter 169-C. Any person who has reason to suspect a child has been abused or neglected, should contact NH DCYF by telephone from 8:00 AM to 4:30 PM, Monday through Friday, using the **Child Abuse Report Line, 800-894-5533 or (603) 271-6556**. For urgent child abuse or neglect that is discovered during DCYF non-work hours (between 4:30 PM and 8:00 AM or on weekends and holidays), call your local police department. Follow up with a verbal report to the Child Abuse Report Line during DCYF working hours. Informing hospital personnel or involving law enforcement on the scene does not fulfill legal reporting responsibilities in accordance with this RSA. Do not send reports of suspected child abuse by email.

ABUSE TO ELDERS AND INCAPACITATED ADULTS

(Reference: NH Elderly and Adult Services 161-F:42 & F:46) Any person suspecting or believing in good faith that an adult who is, or who is suspected to be incapacitated, has been subjected to abuse, neglect, self-neglect or exploitation, or is living in hazardous conditions, shall report or cause a report to be made.

- For individuals living in an independent living situation, such as their own home or apartment, the home or apartment of friends or relatives, a boarding home, or if there is no fixed address—the report should be made to the local Bureau of Elderly & Adult Services (BEAS) district office.
- For incapacitated adults who are residents of nursing or assisted living facilities, the report should be made to the Office of the Long-Term Care Ombudsman (800–422–5640) or 603–271–4375.
- For individuals who live or participate in homes/programs administered by, or affiliated with, the Bureau of Behavioral Health or the Bureau of Developmental Services, or who were receiving care in a community hospital or rehabilitation center during the suspected incident(s)—the report should be made to Bureau of Elderly and Adult Services (800–949–0470) or 603–271–7014.

Note: As with child abuse reporting above, elder abuse reports may be made between 8:00 AM and 4:30 PM Monday – Friday. For urgent cases of abuse or neglect discovered during BEAS non-work hours, call your local police department.

Note: Nothing contained herein shall be construed to mean that any minor of sound mind is legally incapable of consenting to medical treatment provided that such minor is of sufficient maturity to understand the nature of such treatment and the consequences thereof.

RESPONSE TO DOMESTIC VIOLENCE 6.3

Domestic Violence is the willful intimidation, assault, battery, sexual assault, and/or other abusive behavior perpetrated by an intimate partner against another. It is an epidemic affecting individuals in every community, regardless of age, economic status, race, religion, nationality or educational background. The consequences of domestic violence can cross generations and truly last a lifetime.

When domestic violence is suspected, the EMS provider will further assess the patient and take appropriate action in accordance with New Hampshire state law.

PURPOSE

To ensure that individuals affected by domestic violence are identified and provided with comprehensive medical and psychosocial interventions.

INDICATORS OF DOMESTIC VIOLENCE

The following are potential indicators of domestic violence. If the patient presents with one or more of these indicators, further assessment is warranted.

- The patient admits to past or present physical or emotional abuse, as a victim or witness.
- The patient denies physical abuse, but presents with unexplained bruises, whiplash injuries consistent with shaking, areas of erythema consistent with slap injuries, grab-marks on arms or neck, lacerations, burns, scars, fractures or multiple injuries in various stages of healing, fractured mandible, or perforated tympanic membranes.
- The patient presents with injury sites suggestive of battering. Common injury sites include areas hidden by clothing or hair (e.g., face, head, chest, breasts, abdomen and genitals).
- The extent or type of injury is inconsistent with the explanation offered by the patient.
- The woman is pregnant.
- The patient presents evidence of sexual assault or forced sexual actions by a partner.
- The partner (or suspected abuser) insists on staying close to the patient and may try to answer all questions directed to the patient.
- The patient is afraid of returning home or indicates concerns for safety of self, children, and/or pets.
- A substantial delay exists between the time of the injury and presentation for treatment.
- The patient describes the alleged "accident" in a hesitant, embarrassed, or evasive manner, or avoids eye contact.
- The patient has "psychosomatic" complaints such as panic attacks, anxiety, choking sensation, or depression.
- The patient has complaints of chronic pain (back or pelvic pain) with no substantiating physical evidence.
- The patient or partner has a history of psychiatric illness, alcohol and/or drug abuse.
- The patient has a history of suicide attempts or suicidal ideation.
- Medical history reveals many "accidents" or remarks indicating that previous injuries were of suspicious origin.
- The patient has a history of self-induced abortions or multiple therapeutic abortions.
- The patient has a pattern of avoiding continuity in health care.

Response to Domestic Violence continued on next page ⇨

RESPONSE TO DOMESTIC VIOLENCE continued 6.3

⇦ Response to Domestic Violence continued from previous page

RESPONSIBILITY OF EMS PROVIDER

Domestic violence calls are among the most potentially dangerous to responding personnel.

- If EMS providers respond to a known domestic violence call and arrive prior to police, the providers should stage until police arrive and secure the scene.
- If EMS providers respond to an unknown call and suspect domestic violence on arrival, the providers should consider withdrawing, notifying police, and proceeding as above.
- Don't hesitate to return to the vehicle at any time to make decisions or notify police and/or Medical Control.

WHEN CLEARED TO PROCEED

- Clearly and simply identify yourself and your role. Use non-threatening body language and approach.
- Use a team approach. Designate one provider to observe for safety and one or more to work on the patient or discreetly assess children for injuries.
- Know where your partner is.
- Be aware of the surroundings:
  - The number and location of exits
  - The number and location of people in the residence
  - Potential weapons and hiding places
  - Position rescuers with access to exit(s)
- Secure pets.
- Limit the number of people present: responders, neighbors, family, etc.
- Let occupants lead down hallways or into stairwells or rooms. (Keep them in front.)
- Avoid treating a patient in a bedroom (only one exit, intimate setting, possible hidden weapons) or kitchen (many possible weapons).
- Use hard chairs rather than upholstered furniture as weapons are easily hidden among cushions.
- Attempt to separate the patient from the suspected batterer for treatment and/or questioning. If possible, move the patient to the ambulance to assess and treat, even if non-transport.
- If removing personal items from the patient for assessment purposes, place them in paper bags, if possible, to preserve evidence.
- Treat injuries according to appropriate protocol.
- Provide psychological support and offer the patient choices when possible to allow patient to regain a sense of control.

DOCUMENTATION AND REPORTING RESPONSIBILITIES

Per NH RSA 631:6, a person must report to the police any gunshot wound or any other injury he/she believes was caused by a criminal act, with the following exception:

If the patient is 18 years old or older and if the injury was caused by sexual assault or domestic violence and if it is not a gunshot wound or other serious bodily injury, the patient can refuse to have the information released to the police.

Response to Domestic Violence continued on next page ⇨

RESPONSE TO DOMESTIC VIOLENCE continued 6.3

⇦Response to Domestic Violence continued from previous page

REFERRALS

- The NH Coalition Against Domestic and Sexual Violence (NHCADSV) is a network of 14 agencies across the state which support survivors of domestic and sexual violence. Each agency offers the following free, confidential services:
  - 24-Hour Crisis Line (1–800–852–3388 in NH, 603–225–9000 outside NH)
  - Emergency shelter and transportation
  - Legal advocacy
  - Hospital and court accompaniment
  - Information about public assistance

RESOURCES FOR EMS EDUCATION

This protocol is intended to serve as an emergent guideline for EMS providers responding to a domestic violence scene. Comprehensive education and training materials are outlined in the following documents:

Boehm, D. EMS Response to Domestic Violence Curriculum and Resource Manual. New Mexico Emergency Medical Services Bureau, Community Health Services Division, Dept. of Health. http://health.state.tn.us/ems/PDF/g4011361.pdf

Lapolla, J., Little, K., Singer, M., et al. The State of New Hampshire Governor's Commission on Domestic and Sexual Violence: Emergency Medical Services Domestic Violence Protocol. http://doj.nh.gov/victim/docs/dve-mergency.pdf June 1999.

REFERENCES

American College of Emergency Physicians, Guidelines for the Role of EMS Personnel in Domestic Violence: Policy Resource and Education Paper, 1999.

American College of Emergency Physicians. Policy Statement: Domestic Family Violence www.acep.org October 2007.

Boehm, D. EMS Response to Domestic Violence Curriculum and Resource Manual. New Mexico Emergency Medical Services Bureau, Community Health Services Division, Dept. of Health. http://health.state.tn.us/ems/PDF/g4011361.pdf

Lapolla, J., Little, K., Singer, M., et al. The State of New Hampshire Governor's Commission on Domestic and Sexual Violence: Emergency Medical Services Domestic Violence Protocol. http://doj.nh.gov/victim/docs/dve-mergency.pdf June 1999.

National Coalition Against Domestic Violence www.ncadv.org

New Hampshire Coalition Against domestic Violence and Sexual Assault www.nhcadsv.org

DO NOT RESUSCITATE (DNR) ORDERS & ADVANCED DIRECTIVES 6.4

NOTE: This protocol is based on NH RSA Ch. 137-J (effective January 1, 2007). This law significantly changed the way DNRs and Advanced Directives are to be treated in NH.

RECOGNIZED DNR OPTIONS IN NEW HAMPSHIRE

The following are the only recognized DNR options in New Hampshire.

- "P-DNR" (Portable DNR) order: Statewide recognized pink document and/or wallet card signed by a physician or Advanced Registered Nurse Practitioner (ARNP)
  - Note: A DNR order signed by a physician or Advanced Registered Nurse Practitioner on the statutory form reproduced below is valid even if it is not on the pink form (RSA 137-J:26 V).
- Medical orders form in which a physician or ARNP has documented a DNR order.
- DNR bracelet or necklace worn by a patient, inscribed with the patient's name, date of birth (in numerical form) and "NH DNR" or "NH Do Not Resuscitate"
  - Note: Under State law, a DNR bracelet or necklace may only be issued to patients who have a valid written DNR order.

FOR PATIENTS PRESENT OR RESIDING IN A HEALTH CARE FACILITY, THE FOLLOWING IS ALSO ACCEPTABLE:

- A DNR order written by a physician or ARNP at a nursing home, hospital, or other health care facility issued in accordance with the health care facility's policies and procedures.

FOR PATIENTS BEING TRANSFERRED

- Note that all forms of DNR identified above remain valid during a transfer from one health care facility to another.

DNR ORDERS FROM OTHER STATES

The NH statute does not specifically address DNR orders from other states. EMTs should honor any DNR order that is substantially similar to the NH statutory form.

NOTE: Neither a Living Will nor a Durable Power of Attorney for Healthcare (DPOAH) form is effective as a DNR order. A patient's health care agent under a DPOAH may not direct EMTs to withhold resuscitation in the absence of a valid DNR Order. (RSA 137-J:27 I)

REVOCATION OF A DNR ORDER

The following are the only recognized methods for canceling a DNR order.

- A patient residing at home or, if the patient lacks capacity to make health care decisions, the patient's health care agent (under a DPOAH—see below) may revoke a DNR order by destroying the DNR order and removing any DNR bracelet or necklace.
- A patient in a health care facility may revoke his or her previous consent to a DNR order by making either a written, oral, or other act of communication to the attending physician or ARNP or other professional staff of the health care facility. For a patient who lacks the capacity to make health care decisions, the patient's health care agent (under a DPOAH—see below) may revoke a DNR order by notifying the attending physician or ARNP in writing or, if a witness over the age of 18 is present, orally.

Do Not Resuscitate (DNR) Orders and Advanced Directives continued on next page ⇨

DO NOT RESUSCITATE (DNR) ORDERS & ADVANCED DIRECTIVES continued 6.4

⇦*Do Not Resuscitate (DNR) Orders and Advanced Directives continued from previous page*

PROCEDURES NOT TO BE PERFORMED

Any patient who has a valid DNR order as outlined above has indicated his/her wishes not to be resuscitated with basic or advanced life support measures.

IF THE ABOVE CONDITIONS ARE MET, EMTs SHOULD WITHHOLD THE FOLLOWING PROCEDURES

- Do not do chest compressions or actively assist ventilations via BVM.
- Do not intubate or use advanced airways.
- Do not defibrillate.
- Do not administer resuscitation drugs.
- Do not treat Ventricular Fibrillation, Pulseless Ventricular Tachycardia, Pulseless Electrical Activity or Asystole.

PROCEDURES THAT MAY BE PERFORMED

EMTs **may** perform any other measures, including comfort measures, for these patients, within their scope of practice per the usual treatment guidelines, including but not limited to:

- Oxygen therapy via non-rebreather mask or nasal cannula
- Medications for treatment of pain, respiratory distress, dysrhythmias (except for those identified above)
- Intravenous fluid therapy for medication access
- Mouth or airway suctioning

EMTs are encouraged to contact Medical Control to define prehospital treatment in these instances.

Note: All patients without valid DNR documentation should be given full resuscitative efforts by prehospital personnel.

NH STATUTORY DNR FORM

Do Not Resuscitate Order

As attending physician or ARNP of [patient] and as a licensed physician or advanced registered nurse practitioner, I order that this person **SHALL NOT BE RESUSCITATED** in the event of cardiac or respiratory arrest.

This order has been discussed with [patient] (or, if applicable, with his/her agent,) [name of DPOAH], who has given consent as evidenced by his/her signature below.

Attending physician or ARNP Name _____

Attending physician or ARNP Signature _____

Address _____

Patient Signature _____

Address _____

Agent Signature (if applicable) _____

Address _____

Do Not Resuscitate (DNR) Orders and Advanced Directives continued on next page ⇨

DO NOT RESUSCITATE (DNR) ORDERS & ADVANCED DIRECTIVES continued *6.4*

⇦*Do Not Resuscitate (DNR) Orders and Advanced Directives continued from previous page*

DURABLE POWER OF ATTORNEY FOR HEALTH CARE

Under a Durable Power of Attorney for Health Care, a patient may designate another person—a health care agent—to make health care decisions for the patient.

- Before a health care agent may make decisions on behalf of the patient, the patient's attending physician or ARNP must certify in writing that the patient lacks capacity (this certification is filed within the patient's medical record).
- A patient who, in the clinical judgment of the EMS provider, retains the capacity to make health care decisions shall direct his or her health care, even where a health care agent has been appointed. That is, EMS providers shall follow the wishes of the patient rather than the health care agent unless the patient lacks the capacity to make health care decisions.
- The health care agent must make an informed decision; thus, it is generally advisable for EMTs to perform at least a preliminary assessment and inform the health care agent of the options for caring for the patient.

In the absence of a valid DNR order, a health care agent does not have the authority to direct prehospital providers to withhold resuscitation in the event of a cardiac arrest.

LIVING WILL

A living will is intended to address patients who have been admitted to a health care facility. Living wills will rarely, if ever, have application in the prehospital environment.

SPECIAL RESUSCITATION SITUATIONS & EXCEPTIONS 6.5

WHEN NOT TO START

- Dead on Arrival (DOA). A person is presumed dead on arrival when all five "Signs of Death" are present **AND** at least one associated "Factor of Death" is present.
  - Signs of Death:
    - Unresponsive
    - Apnea
    - Absence of palpable pulses at carotid, radial, and femoral sites
    - Unresponsive pupils
    - Absence of heart sounds
  - Factors of Death:
    - Lividity and/or any degree of generalized cyanosis
    - Rigor mortis of any degree
    - Presence of venous pooling in the body
    - Damage or destruction of the body incompatible with life:
      - Decomposition
      - Incineration or extensive full thickness burns
      - Decapitation
      - Transection of head or trunk
      - Blunt or penetrating trauma
      - Separation of heart and/or brain
      - Deforming brain injury

- INFANT DEATH (SIDS). An infant under the age of three months who is apneic, asystolic (no heartbeat or umbilical cord pulse), and meets the non-trauma factors of death in DOA criteria may be presumed dead. Resuscitation and transport may be initiated in cases where the family does not accept the idea of nonintervention.
- NEONATE: a neonate who is apneic, asystolic, and exhibits either neonatal maceration or anencephaly may be presumed dead. Contact medical resource hospital if gestational age is less than 22 weeks and neonate shows signs of obvious immaturity (translucent, gelatinous skin; lack of fingernails; fused eyelids.) Resuscitation and transport may be initiated in cases where the family does not accept the idea of nonintervention.
- DO NOT RESUSCITATE ORDERS: Full palliative measures should be instituted when the person or family has evidence of a Do Not Resuscitate order at hand. Refer to Protocol 6.4.
- SCENE SAFETY. The physical environment is not safe for providers.

Special Resuscitation Situations and Exceptions continued on next page ⇨

SPECIAL RESUSCITATION SITUATIONS & EXCEPTIONS continued 6.5

⇦ Special Resuscitation Situations and Exceptions continued from previous page

WHEN TO STOP

Resuscitation may be stopped under the following circumstances:

- Exhaustion of EMS providers
- Automatic External Defibrillator has advised "no shock" on 3 sequential analyses and ALS/hospital care is not available within 15 minutes (hypothermia is an exception)
- No return of spontaneous circulation after 15 minutes of either BLS alone or combined BLS and ALS in the absence of hypothermia
- Prolonged extrication (>15 minutes) with no resuscitation possible during extrication (hypothermia is an exception)
- The physical environment becomes unsafe for providers
- If directed to do so by Medical Control

EMS providers are not required to transport every victim of cardiac arrest to a hospital. Unless special circumstances are present, it is expected that most resuscitations will be performed on-scene until return of spontaneous circulation or a decision to cease resuscitation efforts is made based on the criteria listed under "When to Stop." Transportation with continuing CPR is justified if hypothermia is present or suspected. Current AHA guidelines state: "cessation of efforts in the out-of-hospital setting…should be standard practice."

DETERMINING DEATH IN THE FIELD

When efforts to resuscitate are not initiated or are terminated under the above provisions:

- Document time of death.
- Notify law enforcement.
- Consider possibility of a crime scene and restrict access.
- Do not move the body.
- Do not remove any resuscitation adjuncts such as endotracheal tubes, IV lines, electrode pads, etc.
- Inform family at scene of patient's death and offer to contact family, friends, clergy, or other support systems.

MASS CASUALTY INCIDENT

Do not attempt resuscitation of near arrest or full arrest patients (category Black/Expectant) if EMS personnel are required to care for category Red/Immediate patients.

DOCUMENTATION

- Complete a Patient Care Record (PCR) in all cases. If available, include ECG rhythm strips with Patient Care Record.
- Document special orders including DNR, on-line Medical Control, etc.
- MCI conditions may require a Tag in addition to an abbreviated PCR.
- Record any special circumstances or events that might impact patient care or forensic issues.

LEGAL STANDING

All deaths are potentially criminal until the Medical Examiner declines jurisdiction.

ADVANCED SPINAL ASSESSMENT 6.6

PURPOSE: To define patients who do not require spinal immobilization or who may have spinal immobilization devices removed in the field.

INDICATIONS

RELIABLE PATIENT

- ≥12 years
- Calm and cooperative
- No altered mental status (dementia, brain injury, developmental delay, psychosis, etc.)
- No evidence of alcohol or drug intoxication
- No acute stress reaction
- Not distracted by circumstances or injuries to self or others
- No communication barriers (deafness, language, etc.)
- No paresthesias or other neurological symptoms

DENIES SPINAL PAIN

NO SPINAL TENDERNESS WITH PALPATION

MOTOR EXAM INTACT

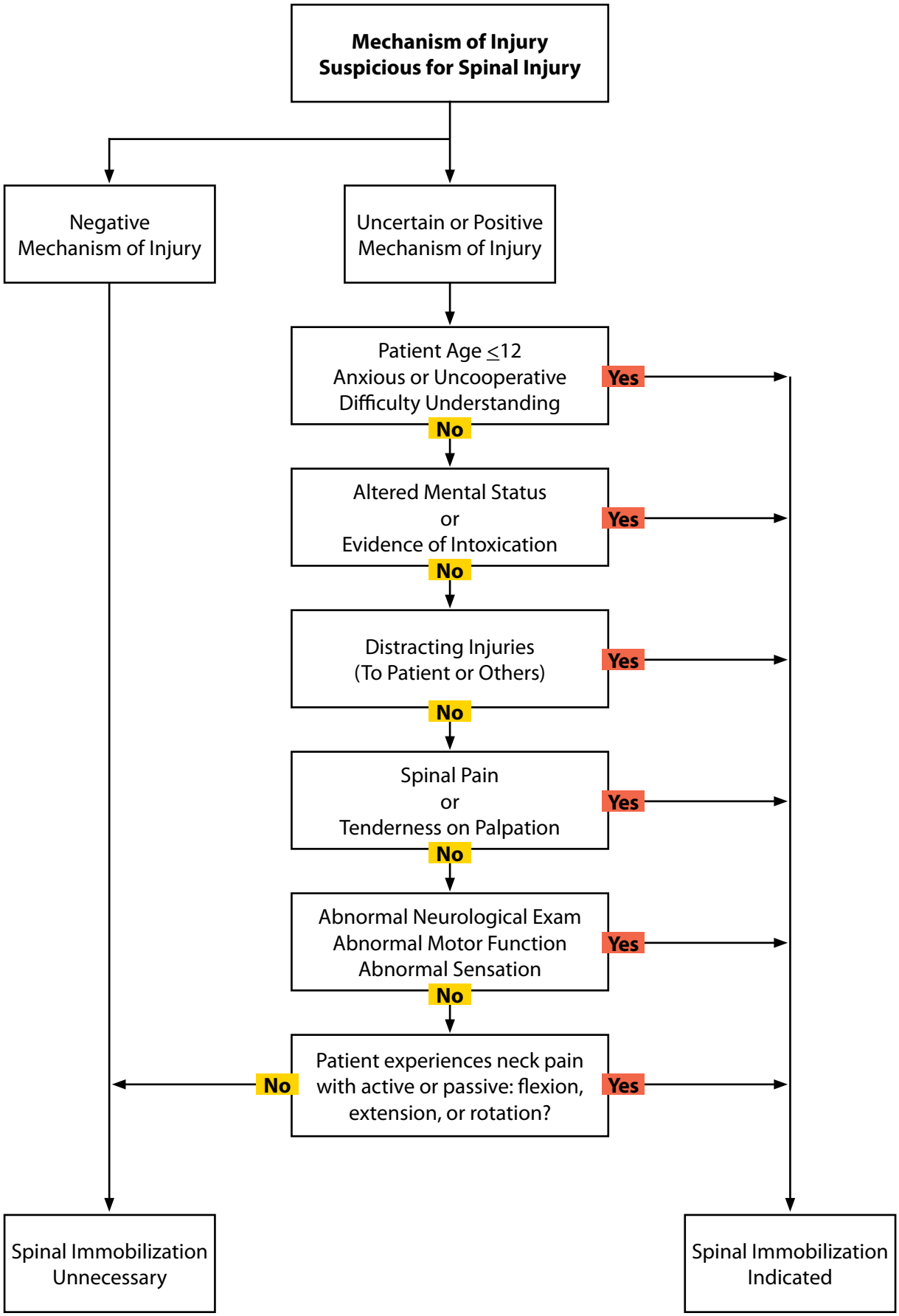
- Finger abduction/adduction
- Finger/wrist flexion/extension
- Foot/great toe extension/flexion

NEUROSENSORY EXAM INTACT

- Soft/sharp touch discrimination in upper and lower extremities

FINALLY

If the patient meets the criteria above, and they can flex/extend/rotate their neck without pain or assistance, then spinal immobilization is not necessary.



ON-SCENE MEDICAL PERSONNEL *6.7*

The medical care provided at the scene is the responsibility of the highest level of EMS provider who has responded by usual dispatch systems to that scene. Passersby who stop to help, even though possibly more highly trained than the system providers, may NOT assume responsibility (except as outlined below) but may be allowed to help in care at the discretion of the lead EMS provider and assuming they have proof of licensure.

When an EMS provider, under Medical Control (on- or off-line), arrives at the scene of an emergency, the provider acts as the agent of Medical Control, i.e., the on-line physician is ultimately responsible.

Any health care provider (MD, PA, RN, nurse midwife, non-NH licensed EMS provider, etc.) who is not an active member of the responding EMS unit, and who is either at the scene at the time of the EMS unit's arrival or arrives after an EMS unit has initiated care, and who desires to continue to participate, should be put in touch with the on-line Medical Control physician.

At no time should an EMS provider provide care outside of their scope of training and/or protocols.

REFUSAL OF CARE 6.8

PURPOSE: To establish guidelines for the management and documentation of situations where patients refuse treatment or transportation.

REFUSAL OF CARE

Patients may legally refuse medical treatment and transport to the hospital, provided that they have the capacity to understand the nature and severity of their illness or injury, the treatments being proposed, the risks and consequences of accepting and refusing treatment, and potential alternatives.

The determination of capacity is made by the prehospital provider based upon a clinical assessment of the patient. The assessment should include the patient's mental status (e.g., alert and oriented x 3), speech (e.g., clear and coherent), gross motor skills, memory, behavior, vital signs, clinical measurements as appropriate (e.g., SpO_2 and blood glucose), prior medical history, and the nature of the present illness or injury. If the prehospital provider has any questions regarding refusal of care, contact online Medical Control.

A patient whose capacity is impaired as a consequence of alcohol intoxication or the influence of medications or drugs cannot legally refuse medical attention. A patient who is suicidal or homicidal, or intends to cause harm to himself or others lacks capacity to refuse medical attention. Patients who are suffering from a psychiatric illness, dementia, a mental disability, or a neurological disease may or may not lack capacity.

See Routine Patient Care Protocol 1.0 regarding both consent to care and refusal of care for a minor patient.

PROCEDURE

1. Clearly offer both treatment and transportation to the hospital and document the offer in your Patient Care Report.
2. Perform an assessment of the patient's capacity and, to the extent permitted by the patient, the patient's illness or injury. Your assessment must be fully documented in your Patient Care Report.
3. Explain to the patient the nature and severity of his/her illness or injury, the treatments being proposed, the risks and consequences of accepting or refusing treatment, and the potential alternatives. Fully document the explanation given to the patient in your Patient Care Report. Where a refusal of care is being obtained from a parent, legal guardian, or authorized representative for a minor patient, the prehospital provider must provide the above explanation to the parent, legal guardian, or authorized representative.
4. Prepare and explain the Refusal of Care form to the patient (or, in the case of a minor patient, the patient's parent, legal guardian, or authorized representative).
5. The "Refusal of Care" form should be signed by the patient (or, in the case of a minor patient, by the minor patient's parent, legal guardian, or authorized representative). The form should also be dated and, where possible, signed by a witness, preferably a competent relative, friend, police officer, or impartial third person.

Note: Telephonic refusal of care for a minor patient may be accepted from a parent, legal guardian, or other authorized representative. A telephonic refusal of care should be carefully documented in the patient care report. See Routine Patient Care Protocol 1.0 for more information.

If the individual is an adult and refuses an evaluation or follow-up, and you believe he/she is suicidal and/or is in immediate danger of bodily injury to the individual or others as a result of mental illness, request police assistance. Request that police consider taking the patient into protective custody under NH RSA 135C:28, III (Refer to Behavioral Emergencies Protocol 2.2).

Refusal of Care continued on next page ⇨

REFUSAL OF CARE continued *6.8*

⇦*Refusal of Care continued from previous page*

If the patient is intoxicated and in need of medical treatment or protective custody, police can take custody of the individual under NH RSA 172:B3.

If child abuse is suspected and a refusal of care situation exists, the EMT MUST contact police immediately. (Refer to Abuse and Neglect Protocol 6.2).

PEDIATRIC RESTRAINT FOR TRANSPORTATION 6.9

PATIENT TRANSPORT

Note: NH RSA 265:107-a requires all children to be properly restrained when riding in a vehicle. An ill or injured child must be restrained in a manner that minimizes injury in an ambulance crash. The method of restraint will be determined by various circumstances including child's medical condition and weight.

1. Convertible car seat with two points of belt attachment to the cot (front and back) is considered a best practice for pediatric patients who can tolerate a semi-upright position.

   - Position safety seat on cot facing foot-end with backrest fully elevated.
   - Consider removing mattress.
   - Secure safety seat with 2 pairs of belts at both forward and rear points of seat.
   - Place shoulder straps of the harness through slots just below child's shoulders and fasten snugly to child.
   - Follow manufacturer's guidelines regarding child's weight.

   Note: Non-convertible safety seats cannot be secured safely to cot. If child's personal safety seat is not a convertible seat, it cannot be used on the cot.

2. Car bed with both a front and rear belt path (example: Cosco Dream Ride SE)

   - Position car bed so child lies perpendicular to cot, keeping child's head toward center of patient compartment.
   - Fully raise backrest and anchor car bed to cot with 2 belts, utilizing 4 loop straps supplied with car bed.
   - Used for infants who cannot tolerate a semi-upright position or who must lie flat.
   - Only appropriate for infants from 5 – 20 lbs.
3. Restraint device with 5-point harness (examples: Ferno Pedi-Mate, SafeGuard Transport)
   - Attach securely to cot utilizing upper back strap behind cot and lower straps around cot's frame.
   - 5-point harness must rest snugly against child.
   - Head portion of cot may be adjusted to any angle for comfort of child.
   - Pedi-Mate fits children weighing 10 – 40 lbs. SafeGuard Transport fits children weighing 22 – 100 lbs.
4. Isolette restraint device with 3-point harness (example: International BioMed Papoose)
   - Harness should rest securely on child with no blanket or sheet between harness and child.
   - Attach to isolette tray at four points.
   - Additional soft Velcro straps may be added for lateral security.
   - Blanket or towels may be used to provide stabilization of the head.
5. Belting child directly to cot in manner to prevent ramping or sliding in a crash
   - Loop narrow belts over each shoulder and under arms, attaching to a non-sliding cot member.
   - Use soft, sliding, or breakaway connector to hold shoulder straps together on chest.
   - Anchor belt to non-sliding cot member and route over thighs, not around waist.

Pediatric Restraint for Transportation continued on next page ⇨

PEDIATRIC RESTRAINT FOR TRANSPORTATION continued 6.9

⇦ Pediatric Restraint for Transportation continued from previous page

NON-PATIENT TRANSPORT

There is no place in the patient compartment that is recommended for child passengers. Best practice is to transport well children in a vehicle other than the ambulance, whenever possible, for safety.

If no other vehicle is available and circumstances dictate that the ambulance must transport a well child, he/she may be transported in the passenger seat of the driver's compartment if they are large enough (according to manufacturer's guidelines) to ride forward-facing in a child safety seat or booster seat. If the air bag can be deactivated, an infant, restrained in a rear-facing infant seat, may be placed in the passenger seat of the driver's compartment.

USE OF PATIENT'S CHILD PASSENGER SAFETY SEAT AFTER INVOLVEMENT IN MOTOR VEHICLE CRASH

The patient's **convertible** safety seat may be used to transport the child to the hospital after involvement in a **minor** crash if **ALL** of the following apply:

- Visual inspection, including under movable seat padding, does not reveal cracks or deformation.
- Vehicle in which safety seat was installed was capable of being driven from the scene of the crash.
- Vehicle door nearest the child safety seat was undamaged.
- The air bags (if any) did not deploy.

INTERFACILITY TRANSFERS 7.0

INTRODUCTION

Interfacility transfer of both adult and pediatric patients to provide optimal medical care is a frequent, necessary, and inevitable occurrence that must be anticipated and planned for. Reasons for transfers include continuity of care, definitive care, access to advanced technologies and advanced diagnostics, obtaining a higher level of care, and patient preference. Transportation and care of these patients are fundamental roles of the EMS system.

INTERFACILITY TRANSFER

Any transfer, after initial assessment and stabilization, from and to a health care facility. Examples include hospital to hospital, clinic to hospital, hospital to rehabilitation, and hospital to long-term care. (Guide for Interfacility Patient Transfer, NHTSA, April 2006)

Responsibility for patient transfer lies with the transferring physician, and must take into account the risk versus benefit to the patient. Providing appropriate equipment, medications, and qualified staffing during transport is paramount to patient safety. These parameters should be based on the requirements of the patient at the time of transfer, and in anticipation of foreseeable complications, deterioration, and medical needs that might arise during transport. On occasion, equipment and personnel in addition to the EMS providers and local ambulance service must be utilized. Options include physicians and nurses to complement EMS providers, and implementation of ground-based critical care transport units or Air Medical Transport. In order to effect a safe transfer, transferring physicians must be knowledgeable about their respective EMS system's provider and equipment capabilities. Out-of-hospital skills and protocols do not necessarily translate into the transfer setting. EMS personnel accompanying the patient must possess the assessment and treatment skills appropriate for the patient's needs and be capable of recognizing and managing complications that occur during transfer.

Physicians and hospitals must also comply with laws regulating the transfer of patients. The federal Emergency Medical Treatment and Active Labor Act (EMTALA) passed in 1985 as a part of the Consolidated Omnibus Reconciliation Act (COBRA). Under this law, regulations exist concerning the evaluation, examination, treatment, stabilization, and transfer of patients with an emergency medical condition. The transferring physician is responsible under federal laws for assuring that qualified personnel, with appropriate equipment, transfer the patient.

Initiation of a transfer should be a carefully coordinated effort by the transferring and receiving physicians, transferring and receiving facilities, and the transferring unit and personnel. Time or advance warning may be needed for the transferring unit to reconfigure in order to meet the needs outlined here. The following provides a guideline for selection of appropriate NH EMS personnel to provide interfacility transport of patients consistent with their current scope of licensure, protocols, and training. Staffing, Medical Control, documentation, medications, transfer protocols, and procedures are addressed. The purpose of this document is to reconcile unique aspects of interfacility transfer with current NH EMS law, licensure, and acute care protocols. It should serve both as a guide and a maximum menu that includes standard acute care protocols specific to each provider level. It is intended to provide flexibility, where possible, for individual agencies, institutions, and communities to meet their unique needs.

Interfacility Transferss continued on next page ⇨

INTERFACILITY TRANSFERS continued 7.0

⇦ Interfacility Transfers continued from previous page

It is assumed that the Intermediate orders include those listed under the Basic orders, and that the Paramedic orders include those listed for the Intermediate and Basic. NH Protocol enables paramedics to continue medications that are not within their routine scope of practice during an interfacility transport, provided that the medication was ordered and initiated prior to transport. The paramedic must proactively obtain working knowledge and education of any such medication—through such means as medication manuals or software, discussion with sending clinicians, discussion with medical director, etc.—prior to transporting the patient. Those medications identified by the NH EMS Medical Control Board as posing an increased risk of untoward effects such as paralytics, some sedatives, and vasoactive medications will also require completion of a NHBEMS approved education program. Paramedics must refuse to transport patients that have a level of acuity and/or medication regimen that the paramedic is not comfortable with, and work with the sending facility to acquire optimal staffing (such as sending nursing staff).

MINIMUM STAFFING

The patient's condition and needs dictate which level providers are appropriate.

STABLE PATIENT WITH NO RISK FOR DETERIORATION

1 EMT Basic and 1 First Responder

- No IV infusions
- Oxygen for stable patient permitted
- Previously inserted Foley catheter
- Saline lock permitted
- Automatic External Defibrillator (AED)

STABLE PATIENTS WITH LOW RISK OF DETERIORATION

1 EMT Intermediate and 1 First Responder

- Any crystalloid infusion containing less than 10mEq/lt of potassium (0.9% NaCl, 0.45% NaCl, D5W, Lactated Ringers, etc.)
- No ongoing medications administered or anticipated
- Patient-controlled analgesic (PCA) pump
- IV Infusion pump for non-pharmacologic agents
- established feeding tube

STABLE PATIENTS WITH MEDIUM RISK OF DETERIORATION

1 Paramedic and 1 Basic

- Cardiac monitoring, manual defibrillation, cardioversion, transcutaneous pacing
- Intubated patients are allowed with second attendant in the patient compartment
- Stable patient on ventilator for discharge to long-term care
- Medical monitoring, procedures, and medication administration consistent with skill set, approved medications, protocols, and licensure.
- Advanced Airway Management
- ACLS/PALS drugs and procedures
- KCL (up to 40mEq/lt) maintenance pump infusion
- Maintenance of previously initiated medication and therapies
- Epidural catheter if secured, capped and labeled.

Interfacility Transfers continued on next page ⇨

INTERFACILITY TRANSFERS continued *7.0*

⇦ *Interfacility Transfers continued from previous page*

UNSTABLE OR STABLE PATIENT WITH HIGH RISK OF DETERIORATION

1 Paramedic, 1 Basic and 1 Qualified Advanced Health Care Provider (For Example: Paramedic, Respiratory Therapist, Critical Care RN, Emergency RN, PA, NP, Physician, etc.) The two advanced care providers must be in the patient compartment.

- For example: patients on multiple vasoactive medication drips, patients in shock, patients who require invasive monitoring, patients on balloon pumps, patients with chest tubes, patients who are less than12 hours post resuscitation.
- Procedures consistent with provider licensure, scope of practice, and training.

DEFINITIONS

- **Unstable Patients:** A patient who cannot be stabilized at the transporting facility, who is deteriorating or likely to deteriorate. (From "Guide for Interfacility Patient Transfer," EMS NHTSA.)
- **Stable Patients:** Defined as hemodynamically stable, those with a secure airway and NOT in acute distress (e.g., active labor, respiratory distress, dangerous dysrhythmias, shock, uncontrolled bleeding). Medical definitions of "stable" are not necessarily the same as the legal definitions used by EMTALA.

EMTALA specifies for non-pregnancy cases that "stabilized" means: "With respect to an emergency medical condition . . . [other than labor] . . . to provide such medical treatment of the condition as may be necessary to assure, within reasonable medical probability, that no material deterioration of the condition is likely to result from, or during transfer." With respect to a pregnant woman with contractions, stable is having delivered (including the placenta). Psychiatric patients are stable for interfacility transfer if they are "protected" from hurting themselves or others. This may be through the use of medication or physical restraints.

EMS Interfacility Transfer Exception: New Hampshire Revised Statutes Annotated (RSA) Chapter 153-a:16 III has been amended to read: "If a physician determines that an interfacility transfer of a recognized critical access hospital patient is urgent and the availability of 2 licensed emergency medical services providers exceeds 30 minutes, then a registered nurse certified in emergency nursing, an emergency physician, or an emergency physician assistant may act as the responsible provider for the patient during the transfer, provided that each is certified in advanced cardiac life support and has completed a bureau of emergency medical services inter-facilty training module."

MEDICAL CONTROL

Provisions for patient medical consultation in transit must always be made. According to EMTALA, patient care during transport until arrival at the receiving facility is the responsibility of the transferring physician unless other arrangements are made.

Transferring and receiving physicians and transport personnel should determine in-transit medical responsibility prior to transport. Sometimes, as in certain Air Medical Transport services or over-land critical care units, the transport is functioning as an extension of a tertiary center. It operates under that facility's protocols, medical directorship, and on-line Medical Control. In most instances, however, there are combinations of medical control elements and shared responsibility. In the prehospital environment, the EMS system operates under protocols. In the interfacility transfer environment, there is also a need to follow written transfer orders authored by the transferring physician that are within the scope of the provider's protocols and licensure. Transfer orders are specific, and appropriate to the patient being transferred. Both the protocols and transfer orders provide off-line Medical Control. Where transfer orders and protocols are in conflict, transfer orders take precedence.

Interfacility Transfers continued on next page ⇨

INTERFACILITY TRANSFERS continued *7.0*

⇦*Interfacility Transfers continued from previous page*

On-line Medical Control through voice communication must be available should the transport personnel need direction beyond their standing order capabilities in transit. It is highly recommended that voice control communication be recorded. Effectiveness of on-line direction depends upon a system that permits voice communication between the transport personnel and the appropriate physician. Transport personnel must have an identified, appropriate, on-line Medical Control contact prior to initiating transport.

OPTIONS FOR ON-LINE MEDICAL RESPONSIBILITY AND CONTROL DURING TRANSFER INCLUDE:

1. Transferring physician assumes medical control.
2. Receiving physician assumes medical control.
3. Medical director or other physician designee of the transport unit assumes medical control.
4. There is a shared, predefined responsibility between the transferring physician and receiving physician. A transfer of control en route occurs based on proximity, or distance-based communication capability.
5. Transferring facility's emergency physician assumes medical control.
6. Receiving facility's emergency physician assumes medical control.

It is advisable that a medical responsibility policy determination be made in advance between referring and receiving hospitals in a written transfer agreement according to their needs, patient requirements, and their unique situations. Transferring physicians should be immediately available, or make other arrangements, for Medical Control communication via radio, cell phone, or telephone when executing emergency transfers. If there is a communication failure, the transferring facility's emergency physician should be the first default on-line contact, and the receiving facility's emergency physician should be the second.

EQUIPMENT

All equipment as required in Saf-C 5904.08(a)–(d) must be available and functioning at the time of transfer. Advanced Life Support transfers must have appropriate equipment to deliver current ACLS/PALS care. This includes, but, is not limited to cardiac monitoring, defibrillator, cardiac pacer, pulse oximetry, advanced airway equipment, suction, drug reference guide including medications used or ordered in transfers, and IV pump. Patients who require ventilatory assistance during transfer will require a continuous CO2 monitor.

HAZARDOUS MATERIALS EXPOSURE 8.0

The goal of the Hazardous Materials Exposure Protocol is to prepare the EMS provider for the potential risks that may be encountered and to provide guidelines to mitigate the effects of a hazardous exposure incident. The EMS provider may reference additional protocols for the management of specific hazardous materials exposure in dealing with known chemicals.

Successful management of a hazardous materials exposure depends on effective coordination between EMS, local hazardous materials teams, fire and police departments, the Poison Control Center, and appropriate state and federal agencies.

IDENTIFICATION

- Identification of the exposed material should be made at the earliest convenient time possible.
- Proper chemical name and spelling will be necessary for identification of procedures for Poison Control (1-800-222-1222) and receiving hospitals.
- Utilization of shipping papers, waybills, and Material Safety Data Sheets (MSDS) may assist in identifying chemical hazards, safety precautions, personal protective equipment, and treatments.
- Note: Many household chemicals may not require activation of a hazardous materials team. Utilize manufacturer's recommendation for decontamination and treatment, or contact Poison Control for treatment and decontamination procedures.

PERSONAL SAFETY

- **Personal protection is the highest priority** when responding to an incident where hazardous material exposure is suspected. **DO NOT ENTER THE HOT ZONE**. Only HazMat Teams should enter the hot zone. Emergency response personnel caring for decontaminated patients should wear universal precautions including gowns, gloves, booties, and goggles/face shields.
- If there is a major hazardous materials release:
  - Request specific staging information and be alert for clusters of injured patients.
  - Maintain safe location upwind and uphill of the site (at least 300 ft.).
  - Observe strict adherence to hot, warm, and cold-zone areas for personal safety, decontamination, and treatment
  - Activate HazMat Response/Incident Command System.
  - Incident Command to notify NH Bureau of Emergency Management (603–271–2231) to request additional resources including law enforcement and pharmaceutical supply.

PATIENT DECONTAMINATION

Only properly trained and protected personnel should conduct patient decontamination. The decontamination system is established by the appropriately trained fire department/HazMat team. EMS personnel will work cooperatively with them during the decontamination process.

Patient decontamination is necessary to minimize injury due to exposure, as well as to mitigate risk of secondary exposure.

MASS/GROSS DECONTAMINATION:

- Mass Decontamination (Large-Scale Multiple/Mass Casualty) involves the effective dilution of a chemical or hazardous substance utilizing large quantities of water. This process is supervised by the appropriately trained local fire department or HazMat team.
- This process is necessary due to the involvement of an overwhelming number of patients, the severity of symptoms, and where Technical or Fine Decontamination cannot be utilized due to time and personnel.

Hazardous Materials Exposure continued on next page ⇨

HAZARDOUS MATERIALS EXPOSURE continued 8.0

⇦Hazardous Materials Exposure continued from previous page

TECHNICAL DECONTAMINATION

- Technical Decontamination involves a step process, supervised by the appropriately trained fire department or HazMat team.
- This decontamination process is dependent on the type of chemical hazard present, and may require different methods such as:
  - Dilution
  - Absorption
  - Neutralization
  - Adsorption
  - Chemical Degradation
  - Solidification

Each method of decontamination has specific uses. Ascertain from the HazMat Team which method was used, if there are any hazards associated with the decontamination process, and if further definitive decontamination is required at the hospital.

DEFINITIVE/FINE DECONTAMINATION

- Usually completed at the hospital, it involves additional washing and rinsing to further dilute and finally remove any contaminants. Definitive decontamination should be performed in an authorized decontamination facility and with appropriately trained personnel.

DECONTAMINATION OF THE SPECIAL REQUIREMENT POPULATIONS

Children and their families, the elderly/frail, and patients with medical appliances will require more EMS staff and time for general assistance and may also require simultaneous basic life support assistance during decontamination. An individual patient requiring special needs decontamination may take 10 – 15 minutes to complete.

Although the principals of decontamination are the same, certain precautions may need to be taken, depending on the patient.

- These patients may have the inability to give history or describe symptoms and physical complaints.
- Typical stress response of children is to be highly anxious and inconsolable, making assessment difficult.
- Small children are more difficult to handle while wearing Personal Protection Equipment (PPE).
- Attempt to keep children with their families, as the decontamination process is likely to be frightening and children may resist.
- Keep patients with existing medical conditions together with their caregivers.
- Children and elderly, and possibly special needs patients, are inherently unable to maintain body temperature and quickly become hypothermic. Utilize water warmed to 100ºF, if available, keep warm after drying procedure.
- Use low-pressure water and soft wash clothes and protect the airway and eyes throughout the decontamination process.

TREATMENT DURING DECONTAMINATION

- If medication is required, limit administration route to intramuscular or medi-inhaler.
- Intravenous therapy and advanced airway interventions should be delayed until after gross decontamination.
- Specific individual treatment should be referenced from Poison Control or MSDS sheets.

Hazardous Materials Exposure continued on next page ⇨

HAZARDOUS MATERIALS EXPOSURE continued *8.0*

⇦*Hazardous Materials Exposure continued from previous page*

DOCUMENT EXPOSURE AND TREATMENT INFORMATION

- Name of chemical(s)
- Amount, time and route of exposure
- Decontamination information
- Treatment/antidotes administered

TRANSPORT

- EMS personnel transporting contaminated patients must have appropriate PPE.
- If an ambulance has transported a contaminated patient, it can only be used to transport similarly contaminated patients until proper decontamination of the vehicle is complete.
- Contaminated patients will not be transported by helicopter.
- Lining of the interior of the ambulance and further use of PPE may be necessary, dependent upon the level of completed decontamination.
- Communication of chemical exposure should be transmitted to the receiving hospital at the earliest possible time. Transmitted information should include such information as covered under the documentation and treatment section.

MASS/MULTIPLE CASUALTY TRIAGE 8.1

PURPOSE

- The goal of the Mass/Multiple Casualty Triage protocol is to prepare for a unified, coordinated, and immediate EMS mutual aid response by prehospital and hospital agencies to effectively expedite the emergency management of the victims of any type of Mass Casualty Incident (MCI).
- Successful management of any MCI depends upon the effective cooperation, organization, and planning among health care professionals, hospital administrators and out-of-hospital EMS agencies, state and local government representatives, and individuals and/or organizations associated with disaster-related support agencies.

DEFINITIONS

MULTIPLE CASUALTY SITUATIONS

- The number of patients and the severity of the injuries do not exceed the ability of the provider to render care. Patients with life-threatening injuries are treated first.

MASS CASUALTY INCIDENTS

- The number of patients and the severity of the injuries exceed the capability of the provider, and patients sustaining major injuries who have the greatest chance of survival with the least expenditure of time, equipment, supplies, and personnel are managed first.

GENERAL CONSIDERATIONS

Initial Assessment to include the following:

- Location of incident
- Type of incident
- Any Hazards
- Approximate number of victims
- Type of assistance required

COMMUNICATIONS

- Within the scope of a Mass Casualty Incident, the EMS provider may, within the limits of their certifications, perform necessary ALS procedures, that under normal circumstances would require a direct physician's order.
- These procedures shall be the minimum necessary to prevent the loss of life or the critical deterioration of a patient's condition.
- All procedures performed under this order shall be documented thoroughly.

TRIAGE

Utilize a triage system such as "START" (adults) or "Jump START" (children) to prioritize patients.

- Assess each patient as quickly and safely as possible.
- Conduct Rapid Assessment.
- Assign patients to broad categories based on need for treatment.
- Remember: Triage is not treatment! Stopping to provide care to one patient will only delay care for others. Standard triage care is only to correct airway and severe bleeding problems.

Mass/Multiple Casualty Triage continued on next page ⇨

MASS/MULTIPLE CASUALTY TRIAGE continued 8.1

⇦Mass/Multiple Casualty Triage continued from previous page

TRIAGE CATEGORIES

- Immediate (**RED**): Life threatening Injuries. Symptoms involving serious impairment of 2 or more organ systems, seizing, altered mental status, unconsciousness, severe respiratory compromise, or hemorrhaging.
- Delayed (**YELLOW**) Urgent care can be delayed up to one hour. Patients who have no immediate life-threatening injuries/effects but injury or exposure is suspected.
- Minimal (**GREEN**) Care can be delayed up to three hours. Patients able to walk and talk after event or exposure.
- Expectant (**BLACK**) Deceased or casualties whose injuries are so severe that their chance of survival does not justify expenditure of limited resources. As circumstances permit, casualties in this category may be reexamined and possibly be re-triaged to a higher category.

TAGGING SYSTEMS

- Use water-repellent triage tags with waterproof markers and attach to the patient.
- Indicate patient's triage priority, degree of decontamination performed, treatment and medications received.

TRIAGE IN HAZARDOUS MATERIALS INCIDENTS

DECONTAMINATION

The need for decontamination is the "first triage decision." Since decontamination can be a lengthy process, the "second decision" is which patient(s) are the first to be decontaminated. The "third decision" is based on need for treatment during the decontamination process, since only simple procedures such as antidote administration can be accomplished while wearing PPE.

IDENTIFICATION AND TREATMENT

- Signs and symptoms of exposure will usually dictate the treatment required, however, at the earliest possible time, identification of the specific chemical should be made.
- Reference additional Hazardous Materials Protocols as necessary.
- Request additional resources. Initial antidote and medical supplies may be limited to priority patients.
- Respiratory compromise is a leading factor of fatalities due to Hazardous Materials Exposure. Symptoms of chemical exposure may be delayed and occur suddenly. Constant reevaluation of respiratory status is necessary.

NERVE AGENTS & ORGANOPHOSPHATES MCI—ADULT 8.2

BASIC/INTERMEDIATE STANDING ORDERS

B/I

- Routine Patient Care.
- Assess for SLUDGEM (salivation, lacrimation, urination, defecation, gastric upset, emesis, muscle twitching/miosis (constricted pupils) and KILLER Bs (Bradycardia, Bronchorrhea, Bronchospasm).
- Remove to cold zone after decontamination and monitor for symptoms.
- Nerve Agent Antidote Auto Injectors are used only in Mass Casualty Incidents.
- Antidotal therapy should be started as soon as symptoms appear.
- All antidote auto-injections must be administered IM.
- For the Mark 1 kit, atropine (tube #1) should always be administered before pralidoxime chloride (tube# 2).

Determine dosing according to the following symptom assessment and guidelines.

Tag Color	Signs & Symptoms of SLUDGEM	Autoinjector dose and Monitoring Interval	Repeat Dosing	Maintenance Dose
RED	apnea, convulsions, unconsciousness, flaccid paralysis	3 Mark 1 kits **OR** 3 DuoDotes **AND** 1 diazepam (10mg) Auto-Injector	Diazepam Auto-Injector may be repeated 3 times at 10 – 15 minute intervals	1 Mark 1 kit **OR** 1 DouDote every hour for 3 hours
YELLOW	dyspnea, twitching, nausea, vomiting, sweating, anxiety, confusion, constricted pupils, restlessness, weakness	1 Mark 1 kit **OR** 1 DouDote Monitor every 10 minutes.	If symptoms progress: 2 Mark 1 kits **OR** 2 DuoDotes **AND** 1 diazepam Auto-Injector. Diazepam may be repeated 3 times at 10 – 15 minute intervals.	
GREEN	asymptomatic, none	Monitor every 10 – 15 minutes for evidence or exposure.		

PARAMEDIC STANDING ORDERS

P

- If field conditions permit, initiate cardiac monitoring and consider the administration of IV medications.
- If symptoms persist after the administration of either 3 Mark 1 kits, **OR** 3 DuoDote kits:
  - Atropine: 2mg IV; repeat every 5 minutes until secretions clear
  - Pralidoxime: 1 – 2 gram IV over 30 – 60 minutes
  - Diazepam 10mg IM/IV; repeat every 5 – 10 minutes as needed

  Instead of diazepam, may use either:
  - Lorazepam 2 – 4mg IM/IV; repeat every 5 – 10 minutes as needed, **OR**
  - Midazolam 2.5 – 5mg IM/IV; repeat every 5 – 10 minutes as needed
- Albuterol 2.5mg in 3ml normal saline via nebulizer, as needed.

MEDICAL CONTROL MAY CONSIDER

- Pralidoxime maintenance infusion: up to 500mg per hour (max. of 12 grams/day)

NERVE AGENTS & ORGANOPHOSPHATES MCI—PEDIATRIC 8.2P

BASIC/INTERMEDIATE STANDING ORDERS

B/I

- Routine Patient Care.
- Assess for SLUDGEM (salivation, lacrimation, urination, defecation, gastric upset, emesis, muscle twitching/miosis (constricted pupils) and KILLER Bs (Bradycardia, Bronchorrhea, Bronchospasm).
- Remove to cold zone after decontamination and monitor for symptoms.
- Nerve Agent Antidote Auto-Injectors are used only in Mass Casualty Incidents.
- Antidotal therapy should be started as soon as symptoms appear.
- All antidote auto-injections must be administered IM.
- For the Mark 1 kit, atropine (tube #1) should always be administered before pralidoxime chloride (tube #2).

Determine dosing according to the following assessment and guidelines.

Tag Color	Signs & Symptoms of SLUDGEM	Autoinjector Doses and Monitoring Interval		Atropine Repeat Dosing
RED (Pediatric)	Yes	Age <1 yr	1 **Peds** Atropine Auto-Injector **(0.5mg)*** Monitor every 3 minutes.	1 Atropine Auto-Injector (0.5mg) every 3 – 5 minutes as needed
		Age >1 yr	1 Adult Mark 1 kit **OR** 1 Adult DuoDote Monitor every 3 minutes.	1 Atropine Auto-Injector (2mg) every 3 – 5 minutes as needed
GREEN (Pediatric)	No	None Monitor every ten minutes for evidence of exposure.		

***One ADULT Mark 1 kit OR DuoDote** may be used for pediatric patients <1 year old in a life-threatening situation with exposure symptoms when no pediatric doses of atropine and pralidoxime chloride are available.

Nerve Agents & Organophosphates MCI continued on next page ⇨

NERVE AGENTS & ORGANOPHOSPHATES MCI—PEDIATRIC continued 8.2P

⇦Nerve Agents & Organophosphates MCI continued from previous page

PARAMEDIC STANDING ORDERS

P

- In the unlikely event that field conditions permit, follow weight-based dosing and treatment guidelines:
  - Initiate cardiac monitoring.
  - Establish IV access.
  - Atropine: 0.05 – 0.1mg/kg IV or IM (minimum dose of 0.1mg, maximum single dose 5mg); repeat every 2 – 5 minutes as needed
  - Pralidoxime 25 – 50mg/kg/doses IV (maximum dose 1 gram) or IM (maximum dose of 2 grams), may repeat within 30 – 60 minutes as needed, then again every hour for 1 – 2 doses as needed.
  - Diazepam 0.3mg/kg IV (0.5mg/kg per rectum) (maximum dose 10mg), repeat every 5 – 10 minutes as needed

    Instead of diazepam, may use either:
    - Lorazepam 0.1mg/kg IV/IM (maximum dose 4mg), repeat every 5 – 10 minutes as needed, **OR**
    - Midazolam 0.2mg/kg IM, repeat every 5 – 10 minutes as needed
  - Albuterol 2.5mg in 3ml normal saline via nebulizer as needed.

PARAMEDIC MEDICAL CONTROL MAY CONSIDER

- Praxlidoxime maintenance infusion: 10 – 20mg/kg/hr
- 0.2mg/kg Midazolam sublingual, intranasal

NERVE AGENTS & ORGANOPHOSPHATES MCI—PROVIDER PROTECTION 8.3

BASIC/INTERMEDIATE STANDING ORDERS

B/I

- If first responder(s) display symptoms, notify dispatch immediately.
- All first responders will evacuate area until secured by HazMat Team.
- Remove clothing and decontaminate yourself and/or assist other responders.
- Routine Patient Care.
- Assess for SLUDGEM (salivation, lacrimation, urination, defecation, gastric upset, emesis, muscle twitching/miosis (constricted pupils) and KILLER Bs (Bradycardia, Bronchorrhea, Bronchospasm).
- Use Mark 1 or DuoDote autonjectors only if nerve agent symptoms are present. These auto-injector kits **offer no prophylactic protection** and use prior to appearance of symptoms may be harmful.
- All antidote auto-injections must be administered IM.
- For the Mark 1 kit, atropine (tube #1) should always be administered before pralidoxime chloride (tube #2)

Determine dosing according to the following symptom assessment and guidelines.

Tag Color	Signs & Symptoms of SLUDGEM	Autoinjector Dose and Monitoring Interval	Repeat Dosing	Maintenance Dose
RED	apnea, convulsions, unconsciousness, flaccid paralysis	3 Mark 1 kits **OR** 3 DuoDotes™ **AND** 1 diazepam (10mg) Auto-Injector	Diazepam Auto-Injector may be repeated 3 times at 10 – 15 minute intervals	1 Mark 1 kit **OR** 1 DouDote every hour for 3 hours
YELLOW	dyspnea, twitching, nausea, vomiting, sweating, anxiety, confusion, constricted pupils, restlessness, weakness	1 Mark 1 kit **OR** 1 DouDote for minor symptoms. Monitor every 10 minutes.	If symptoms progress: 2 Mark 1 kits **OR** 2 DuoDotes **AND** 1 diazepam Auto-Injector. Diazepam may be repeated 3 times at 10 – 15 minute intervals.	
GREEN	asymptomatic, none	Monitor every 10 – 15 minutes for evidence or exposure.		

Transport self and any other first responder(s) receiving Mark 1 therapy to hospital.

Nerve Agents & Organophosphates MCI—Provider Protection continued on next page ⇨

NERVE AGENTS & ORGANOPHOSPHATES *8.3*
MCI—PROVIDER PROTECTION continued

⇦*Nerve Agents & Organophosphates MCI—Provider Protection continued from previous page*

PARAMEDIC STANDING ORDERS

P

- ► If field conditions permit, initiate cardiac monitoring and consider the administration of IV medications.
- ► If symptoms persist after the administration of 3 Mark 1 kits, **OR** 3 DuoDotes:
  - ♦ Atropine: 2mg IV; repeat every 5 minutes until secretions clear.
  - ♦ Pralidoxime: 1 – 2 gram IV over 30 – 60 minutes.
  - ♦ Diazepam 10mg IM/IV; repeat every 5 – 10 minutes as needed.

  Instead of diazepam, may use either:
    - ◊ Lorazepam 2 – 4mg IM/IV; repeat every 5 to 10 minutes as needed, **OR**
    - ◊ Midazolam 2.5 – 5mg IM/IV; repeat every 5 to 10 minutes as needed.
  - ♦ Albuterol 2.5mg in 3ml normal saline via nebulizer, as needed.

MEDICAL CONTROL MAY CONSIDER

- ♦ Pralidoxime maintenance infusion: up to 500mg per hour (max. of 12 grams/day)

RADIATION INJURIES MCI—ADULT AND PEDIATRIC 8.4

Exposure to radioactive source or radioactive material/debris

BASIC/INTERMEDIATE STANDING ORDERS

B/I

- Remove the patient from scene and decontaminate by appropriately trained personnel.
- Triage tools for mass casualty incident
  - If vomiting starts:
    - Within 1 hour of exposure, survival is unlikely and patient should be tagged "Expectant."
    - Less than 4 hours of exposure, patient needs immediate decontamination and evaluation and should be tagged "Immediate."
    - After 4 hours, reevaluation can be delayed 24 – 72 hours if no other injury is present and patient should be tagged "Delayed."
- Routine Patient Care.
- Treat traumatic injuries and underlying medical conditions.
- Patients with residual contamination risk from wounds, shrapnel, or internal contamination should be wrapped in water repellent dressings to reduce cross contamination.
- Consider Air Medical Transport after proven definitive decontamination of patient.

PARAMEDIC STANDING ORDERS

P

- Consider anti-emetic (see Nausea/Vomiting Protocol 2.14)
- Consider pain control (see Pain Management Protocol 2.10)

2009 APPROVED MEDICATION LIST FOR NEW HAMPSHIRE EMS PROVIDERS

GENERIC NAME	TRADE NAME
ACETAMINOPHEN	TYLENOL
ACTIVATED CHARCOAL	
ADENOSINE	ADENOCARD
ALBUTEROL	PROVENTIL
AMIODARONE	CORDARONE
AMYL NITRITE	
ASPIRIN	ACETYLSALICYLIC ACID
ATROPINE	
ATROPINE (AUTOINJECTOR)	ATROPEN, ATROPEN JR.
BUMETANIDE	BUMEX
CALCIUM CHLORIDE	
DEXTROSE	GLUCOSE
DIAZEPAM	VALIUM
DILTIAZEM	CARDIZEM, DILACOR, TIAZAC
DIPHENHYDRAMINE	BENADRYL
DOLASETRON	ANZEMET
DOPAMINE	
EPINEPHRINE	
EPINEPHRINE (AUTOINJECTOR)	EpiPen, EpiPen JR
ETOMIDATE	AMIDATE
FENTANYL	SUBLIMAZE
FLUMAZENIL	ROMAZICON
FUROSEMIDE	LASIX
GRANISETRON	KYTRIL
GLUCAGON	
HALOPERIDOL	HALDOL
HEPARIN	
HYDROXOCOBALAMIN	CYANOKIT
IBUPROFEN	MOTRIN
IPRATROPIUM BROMIDE	ATROVENT
KETOROLAC	TORADOL
LEVALBUTEROL	XOPENEX
LIDOCAINE	
LORAZEPAM	ATIVAN
MAGNESIUM SULFATE	
MARK 1 KITS	
METHYLPREDNISOLONE	SOLUMEDROL
METOCLOPRAMIDE	REGLAN

2009 Approved Provider Medication List continued on next page ⇨

2009 APPROVED MEDICATION LIST FOR NEW HAMPSHIRE EMS PROVIDERS

⇦ *2009 Approved Provider Medication List continued from previous page*

GENERIC NAME	TRADE NAME
METOPROLOL	LOPRESSOR
MIDAZOLAM	VERSED
MORPHINE	
NALOXONE	NARCAN
NITROGLYCERIN	TRIDIL, NITROBID, NITROSTAT
NITROUS OXIDE PREMIXED WITH OXYGEN	NITRONOX
NOREPINEPHRINE	LEVOPHED
ONDANSETRON	ZOFRAN
OXYTOCIN	PITOCIN
PHENYLEPHRINE	NEO-SYNEPHRINE
PRALIDOXIME	2-PAM, PROTOPAM CHLORIDE
PRALIDOXIME (AUTOINJECTOR)	2-PAM, PROTOPAM CHLORIDE
PROCHLORPERAZINE	COMPAZINE
PROPARACAINE	ALCAINE
ROCURONIUM	ZEMURON
SODIUM BICARBONATE	
SODIUM NITRITE	
SODIUM THIOSULFATE	
SUCCINYLCHOLINE	ANECTINE
TETRACAINE	
VASOPRESSIN	
VECURONIUM	NORCURON
VERAPAMIL	CALAN

Approved Interfacility Medication

In the interfacility transfer setting where the medication is ordered and initiated in the health care facility or the home health care setting (i.e., hospice or home nursing care) prior to transfer, it is within the scope of practice of the paramedic to continue that medication during transfer.

NEW HAMPSHIRE ADVANCED ADULT AIRWAY PROCEDURES BY LICENSURE LEVEL

ADULT AIRWAYS	LEVELS		
Blind insertion Advanced Airways	Basic*	Intermediate*	Paramedic*
LMA		Intermediate*	Paramedic*
ETT oral			Paramedic
ETT nasal			Paramedic
CPAP		Intermediate*	Paramedic*
Cricothyrotomy			Paramedic*
RSI			Paramedic▲

EMT-Basics and EMT-Intermediates are authorized to use adult advanced airways only for patients in cardiac arrest.

*NH Department of Safety Transition Program required prior to use, unless approved and trained under local option prior to 01/01/06.

▲Prerequisite and training required prior to use. (Skill allowed under protocol with waiver and approval from the NH Department of Safety prior to 01/01/06.)

Approved by the New Hampshire Medical Control Board July 20, 2006.

ADULT PATIENT CARE SCOPE OF PRACTICE

Airway Management	1st Responder	EMT-B	EMT-I	EMT-P
BVM	X	X	X	X
Capnography			X	X
Chest Tube Maintenance				Transfer*
Cleared, Opened, Heimlich	X	X	X	X
Commercial Blind Airway Devices (e.g., Combitube, King, etc.)		▲	▲	▲
CPAP			▲	▲
Cricothyrotomy				X
Endotracheal Intubation				X
Endotracheal Suctioning				X
Laryngeal Mask Airway			▲	▲
Nasogastric Tube				X
Nasopharyngeal Airway		X	X	X
Nasotracheal Intubation				X
Nebulizer Treatment			▲	X
Needle Decompression				X
Oral Suctioning	X	X	X	X
Oropharyngeal Airway	X	X	X	X
Oxygen Administration	▲	X	X	X
Pulse Oximetry		X	X	X
Rapid Sequence Intubation				Prerequisite
Tracheostomy Maintenance		▲	▲	X
Ventilator Operation				Transfer▲

X Skills allowed under protocol and taught in the DOT curriculum.
▲ Skill allowed under protocol after completion of a NH Department of Safety approved transition module or enhanced module.

Adult Patient Care Scope of Practice continued on next page ⇨

ADULT PATIENT CARE SCOPE OF PRACTICE continued

⇦ *Adult Patient Care Scope of Practice continued from previous page*

Medication Administration Route	1st Responder	EMT-B	EMT-I	EMT-P
Autoinjector		▲	▲	X
Endotracheal				X
Inhalation		MDI▲	▲	X
Intramuscular			▲	X
Intraosseous			Cardiac arrest with commercial IO introduction device▲	X
Intravenous			▲	X
Intravenous Pump				X
Oral		X	X	X
Intranasal			X	X
Rectal				X
Subcutaneous			▲	X
Sublingual		Assist▲	Assist▲	X
Transdermal				X
Vascular Access	**1st Responder**	**EMT-B**	**EMT-I**	**EMT-P**
Blood Draw			X	X
Blood Glucose Analysis		▲	▲	X
Central Line Access				▲
Peripheral Venous Access—external jugular				X
Peripheral Venous Access—extemities			X	X
Intraosseous—Adult			Cardiac arrest▲	X
Cardiac Management	**1st Responder**	**EMT-B**	**EMT-I**	**EMT-P**
Application of 12-lead ECG		▲	▲	X
Application of 3- or 4-lead ECG		▲	▲	X
CPR—Cardiopulmonary Resuscitation	X	X	X	X
Defibrillation—AED	X	X	X	X
Defibrillation—manual			▲	X
Interpretation of 12-lead ECG				X
Interpretation of 3- or 4- lead ECG			V-Fib/V-Tach Asystole, PEA▲	X
Synchronized Cardioversion				X
Transcutaneous Pacing				X

X Skills allowed under protocol and taught in the DOT curriculum.
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PEDIATRIC PATIENT CARE SCOPE OF PRACTICE

Airway Management	1st Responder	EMT-B	EMT-I	EMT-P
BVM	X	X	X	X
Capnography				X
Cleared, Opened, Heimlich	X	X	X	X
Endotracheal Intubation				X
Endotracheal Suctioning				X
KING LT-D				X
Laryngeal Mask Airway				X
Nasogastric Tube				X
Nasopharyngeal Airway		X	X	X
Nebulizer Treatment				X
Needle Decompression				X
Oral Suctioning	X	X	X	X
Oropharyngeal Airway	X	X	X	X
Oxygen Administration		X	X	X
Pulse Oximetry		X	X	X
Tracheostomy Maintenance		▲	▲	X
Ventilator Operation				Transfer▲
Resuscitation Ventilator Operation				X

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Pediatric Patient Care Scope of Practice continued on next page ⇨

PEDIATRIC PATIENT CARE SCOPE OF PRACTICE continued

⇦*Pediatric Patient Care Scope of Practicecontinued from previous page*

Medication Administration Route	1st Responder	EMT-B	EMT-I	EMT-P
Autoinjector		▲	▲	X
Endotracheal				X
Inhalation		MDI▲	MDI▲	X
Intramuscular				X
Intranasal				X
Intraosseous				X
Intravenous				X
Intravenous Pump				X
Oral		Activated Charcoal	Activated Charcoal	X
PiggyBack				X
Rectal				X
Subcutaneous				X

Vascular Access	1st Responder	EMT-B	EMT-I	EMT-P
Blood Draw				X
Blood Glucose Analysis		▲	▲	X
Central Line Access				▲
Intraosseous				X
Peripheral Venous Access				X
Umbilical Vein Access				X

Cardiac Management	1st Responder	EMT-B	EMT-I	EMT-P
Application of 12-lead ECG		▲	▲	X
Application of 3- or 4-lead ECG		▲	▲	X
CPR—Cardiopulmonary Resuscitation	X	X	X	X
Defibrillation—AED	X	X	X	X
Defibrillation—manual				X
Interpretation of 12-lead ECG				X
Interpretation of 3- or 4-lead ECG				X
Synchronized Cardioversion				X
Transcutaneous Pacing				X

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Pediatric Patient Care Scope of Practice continued on next page ⇨

ADULT & PEDIATRIC PATIENT SCOPE OF PRACTICE

⇦Pediatric Patient Care Scope of Practice continued from previous page

Other Skills	1st Responder	EMT-B	EMT-I	EMT-P
Advanced Spinal Assessment		X	X	X
Burn Care		X	X	X
Cervical Spinal Immobilization	▲	X	X	X
Childbirth	X	X	X	X
Extrication		X	X	X
Eye Irrigation (Morgan lens)				X
Immunization				▲
MAST (pelvic splinting)		X	X	X
Restraints—pharmacological				X
Restraints—Physical		X	X	X
Spinal Immobilization—Lying (Long Board)		X	X	X
Spinal Immobilization—Seated (KED)		X	X	X
Spinal Immobilization—Standing		X	X	X
Splinting	▲	X	X	X
Splinting—Traction		X	X	X
Stroke Scale		X	X	X
Temperature		X	X	X
Vital Signs	▲	X	X	X
Wound Care—Occlusive Dressing		X	X	X
Wound Care Pressure Bandage	X	X	X	X

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